



145505



*Class* \_\_\_\_\_ *No.* \_\_\_\_\_

IN EXCHANGE

6 <sup>50</sup>



LIBRARY OF THE  
COMMISSIONERS OF THE  
UNIVERSITY OF PENNSYLVANIA  
OF PHILADELPHIA







Digitized by the Internet Archive  
in 2016

<https://archive.org/details/journalofmichiga3419mich>

# The Journal of the Michigan State Medical Society

Published Under the Direction  
of the Council

## PUBLICATION COMMITTEE

A. S. Brunk, M. D. (Chairman)  
Howard H. Cummings, M. D.  
J. Earl McIntyre, M. D.

J. H. Dempster, M. D.  
Editor

C. T. Ekelund, M. D., Secretary  
Wm. J. Burns, Business Manager

VOLUME XXXIV

1935



# THE JOURNAL

OF THE

*Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOL. 34

JANUARY, 1935

No. 1

## TANNIC ACID TREATMENT OF BURNS\*

GROVER C. PENBERTHY, M.D.†

DETROIT, MICHIGAN

The management of a burn case develops practical and theoretical considerations. Many ideas and outlines of the treatment have been advanced but a review of the literature indicates that the greatest amount of constructive thinking and work along lines of practical therapeutics has been done in the last two decades. Many questions have been raised and it is obvious that there still remain problems for further research before we can agree on any standard form of treatment.<sup>4</sup> As stated by Aldrich,<sup>1</sup> "Each new trend in medical progress has had some effect on the general ideas concerning burns. These new ideas were plausible at the time, but when subjected to careful analysis and experimentation, fell into disuse or were clung to out of habit or lack of a better substitute."

The responsibility entrusted to the physician treating a severe burn is not always fully realized nor appreciated by the patient or family. Statistics<sup>3</sup> show that 45 per cent of the lethal burns occurring annually in the United States are in children under six years of age and in this group the outcome is often out of proportion to the severity and extent of the apparent damage done. At the Children's Hospital, where 493 cases (Chart I) were studied, the greatest number fell in the age group 1 to 3 years (Chart II). Since the introduction of the tannic acid treatment by Davidson<sup>2</sup> in 1925, a form of procedure in the care of the burn case has been established and generally adopted. The advantages of this treatment and the results

obtained by its use have been emphasized in a number of published reports.<sup>6,7,8</sup>

The work of the late Dr. Edward C. Davidson was a great contribution to medical science and it is with pride that we in Michigan refer to the results of his laboratory and clinical research. His work has

CHART I. CASES LISTED ACCORDING TO ETIOLOGY  
TOTALS FOR AN ELEVEN YEAR PERIOD

Burned by hot fluids (spilling hot liquids from table or stove, stepping or falling in hot water).....	269	(54.6%)
Fire (bonfire, stove, gas heater, gasoline, etc.) .....	101	(20.5%)
Fire (result of playing with matches) ..	41	(8.3%)
Chemicals .....	31	(6.3%)
Not stated .....	51	(10.3%)
Total number of cases.....	493	
Considered avoidable .....	398	(80.73%)
Considered unavoidable .....	44	(8.93%)
Not stated .....	51	(10.34%)
Total .....	493	

\*From the Surgical Service of the Children's Hospital of Michigan. Read before the surgical section, Michigan State Medical Society, September 12, 1934. Illustrated by a motion picture film.

†Dr. Grover C. Penberthy is a graduate in Medicine, Medical School, University of Michigan, 1910. He served on the staff of the New York City Hospital, 1910-1913. He is Associate Professor of Surgery, Wayne University, College of Medicine; non-resident Lecturer in Surgery, University of Michigan Medical School; Director of General Surgery, Children's Hospital of Michigan; Associate Surgeon, Harper Hospital and Herman Kiefer Hospital; Consulting Surgeon, Receiving Hospital, Detroit.

also had its effect in stimulating others to perfect methods of technic in the treatment of burns which would assist in reducing the mortality. In regard to the use of tannic acid as a form of treatment, Wells in a recent publication makes the following state-



ment: "The introduction of tannic acid by Davidson in 1925 has revolutionized and apparently for the first time in history



Fig. 1. Light tent used in treatment of patients admitted in shock.

standardized the treatment of diffuse burns."

The early symptoms following a burn are primarily those of shock with a profound disturbance of the circulatory and heat regulating mechanism, and, in all probability, equally serious interference with many other normal functions of the body. The larger the area involved, the greater are the number of nerve endings and neurons irritated, resulting in a greater degree of shock. It has been shown by the experimental work of Doctor Davidson that a burn causes a marked depression in blood chlorides, that the toxemia accompanying a burn is due to a toxic agent which originates at the site of the burn, that the absorption of this agent is responsible for the constitutional reaction, that the local destruction of tissue is due to a proteid substance with the subsequent formation of a proteose, and, finally, that the latter is the toxic element in burns.

Tannic acid is a non-nitrogenous amorphous powder readily soluble in water, glycerine and alcohol but insoluble in ether and chloroform. It precipitates proteins, alkaloids, some glucosides and the salts of heavy metals. It forms a more or less stable compound with the protein constituents of the body fluids and cells, thereby preventing the loss of body fluid at the site of the burn. The astringent effect appears to be limited to the superficial layers of tissue. The precipitated proteins on the surfaces treated prevent and minimize the absorption of the autolytic products of protein decomposition.

In addition, the precipitated proteins provide a protective coating and a mechanical action against sensory and inflammatory irritation. It is used with the idea of precipitating the toxic elements in the burned tissue, thereby preventing their absorption. Tannic acid is used as a 5 per cent aqueous solution freshly



Figs. 2 and 3. E. D., aged four years, fell into a brush fire. She was admitted to the Children's Hospital March 5, 1932, one hour after the accident, in shock. The patient had second and third degree burns of the right half of the body from axilla to hip, left lumbar region and both arms. She was treated with 5 per cent tannic acid spray, hypodermoclysis and three blood transfusions. Skin graft was done in two stages, using pinch grafts. The patient expired following twenty-four days in the hospital.



Fig. 4. P. McN., aged four years, was burned playing with matches. She entered the Children's Hospital March 1, 1934, one-half hour after the accident. The patient had second and third degree burns of the abdomen, back, vulva, upper thighs and buttocks. One-third of the body surface was involved. She was treated with 5 per cent tannic acid spray and multiple blood transfusions. Skin grafting with Reverdin grafts was done in five stages. The burned surface was entirely healed without contractures and the patient was discharged June 12, 1934.

prepared and applied to the burned area by a De Vilbiss spray. A burn when exposed to the air is very painful and the earlier it is covered with tannic acid the degree of pain and shock will be greatly diminished.

The treatment of burns is best carried out in the hospital. Patients admitted in shock can be put in a light tent (Fig. 1) or the heat may be applied in another way by an electrically heated blanket or many hot water bottles placed about the patient. Morphine or codeine should be given freely for the pain. This allows the patient to rest the first night and having had this rest he is bet-

CHART II. AGE INCIDENCE FOR AN ELEVEN YEAR PERIOD

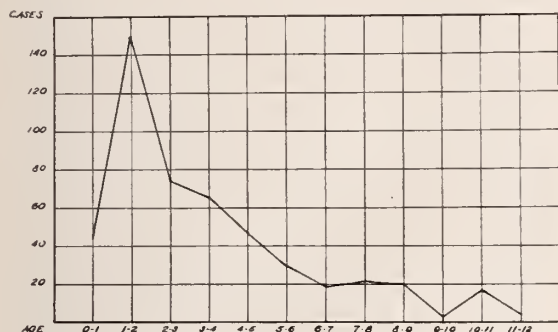
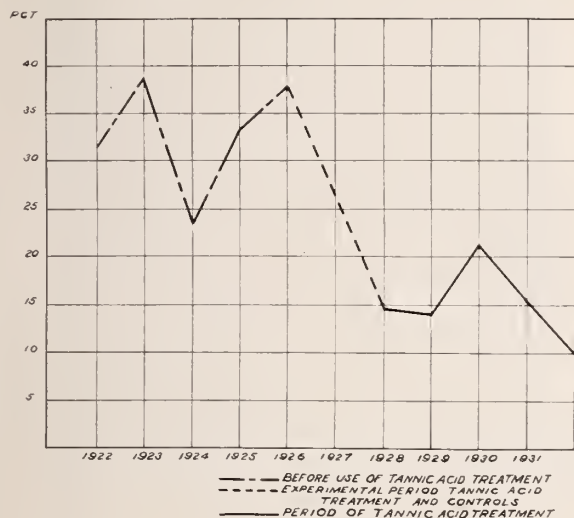


CHART III. MORTALITY CURVE



ter fitted to take the forcing of fluids the following day. For the more severe burns saline should be given by hypodermoclysis or intravenously with glucose as the needs indicate. In addition blood transfusion and this repeated as often as indicated.

The local treatment of burns depends to a large extent upon the experience of the surgical staff. The general rule, however, is to wash the acid and alkali burns with water before applying the neutralizing agent and to remove all devitalized superficial tissue, as well as opening and draining the blisters with as little trauma as possible. The patient is then placed in a light tent upon a sterile sheet and the tannic acid spray started by the nurse. The burned area is sprayed every fifteen minutes for the first four to six hours. The time required for this spraying depends upon the depth of the burn and the reaction of the tissues to the tannic acid. It is our practice to use the

tannic acid gel for burns of the face. The first application of the tannic acid gives the patient relief from pain and as the precipitate increases it becomes black and hard (Figs. 2, 3 and 4), giving a firm covering to the burned area and a protection against



Fig. 5. S. C., eleven years old, was burned when throwing kerosene on the fire. He was admitted to the Children's Hospital, October 17, 1931, with second degree burn involving the right side of the face, right forearms and lower half of the right arm. Tannic acid gel was applied to the face and 5 per cent tannic acid spray to the arm and forearm. The patient made a complete recovery and was discharged from the hospital November 5, 1931.

infection which is a distinct advantage. As the epithelium regenerates, the coagulum or tannic leathery coat curls up at the edges (Fig. 5). It has been found in our use of the tannic acid in the treatment of burns in children that the mortality has been reduced from 36 per cent to 10 per cent (Chart III). These figures compare very favorably with those reported from other clinics.

The treatment of any burn case becomes an individual problem, but, to insure the best end-result, requires strict adherence to the accepted principles of treatment as proposed by Davidson and others. This treatment in the majority of cases should reduce the mortality and assist in preventing the unfortunate occurrence of many complications. Prompt application of local treatment,<sup>5</sup> proper supportive measures, follow-up care and attention together with early skin graft-

ing along with the correction of deformities offers a reasonable hope for success.

### Summary

1. Burns have carried a high mortality and are best treated in the hospital. The standardization in the treatment of diffuse burns by the use of tannic acid has materially reduced the mortality and this contribution by Doctor Davidson to the subject has resulted in the saving of many lives.

2. Washing the chemical burns with water is essential before applying the neutralizing agent.

3. Proper first aid followed by early hospitalization and aseptically cleansing the burned area is important.

4. The tannic acid method of treatment, combined with the light tent, is effective and helps to simplify the treatment of a condition that can tax the patience, time and resources of the attending physician to the utmost.

5. The forcing of fluids and giving saline, either subcutaneously or intravenously, and blood transfusion are necessary to

carry the patient through the acute period of toxemia.

6. Early skin grafting of the third degree lesions will minimize the amount of scarring and deformity. It will also lessen the period of morbidity and disability.

7. The severe burn case often requires subsequent plastic surgery to improve the function of an extremity or better the cosmetic result.

### Bibliography

1. Aldrich, R. H.: The rôle of infection in burns. *New England Jour. Med.*, 208:299-309, (Feb. 9) 1933.
2. Davidson, E. C.: Tannic acid in the treatment of burns. *Surg., Gynec. and Obstet.*, 12:202-221, (August) 1925.
3. Davidson, E. C., and Penberthy, G. C.: The treatment of burns in children with tannic acid. 1929 *Detroit Proceedings Inter-State Post Graduate Medical Association of North America*, pp. 265-268.
4. Penberthy, G. C., and Weller, C. N.: Complications associated with the treatment of burns. *Amer. Jour. Surg.*, 26:124-132, (October) 1934.
5. Penberthy, G. C., and Weller, C. N.: Treatment of burns at the Children's Hospital of Michigan, Brochure distributed at the Scientific Exhibit, A. M. A., Cleveland, 1934.
6. Seeger, S. J.: The hydrogen-ion concentration value of tannic acid solutions used in the treatment of burns. *Surg., Gynec. and Obstet.*, 4:455, 1932.
7. Wells, D. B.: The aseptic tannic acid treatment of diffuse superficial burns. *Jour. Am. Med. Assn.*, 101: 1136-1138, (Oct. 7) 1933.
8. Wilson, W. C.: The tannic acid treatment of burns. Special Report Series, 141 Privy Council, Medical Research Council, London. Published by His Majesty's Stationery Office, 1929.

## UTERINE FIBROIDS: THE IMPORTANCE OF DIAGNOSTIC CURETTAGE IN THEIR MANAGEMENT\*

NORMAN F. MILLER, M.D.,† and GEORGE H. SEHRING, M.D.

ANN ARBOR, MICHIGAN

Our aim in presenting this paper is to emphasize diagnostic curettage as an important adjunct in the treatment of uterine fibroids which come under clinical attention. The combined occurrence of myomata and cancer of the uterus has been pointed out more than once (See Table 1).

Although the data presented in Table 1 are of scientific interest, their practical value may be questioned. The combined presence of both neoplasias was presumably established by microscopic study, and the table fails to take into consideration those cases clinically diagnosed as uterine fibroids—and so treated—but which later proved to be adenocarcinoma of the uterine body with or without thickening of the myometrium. True, most corpus cancers are not associated with thickening of the myometrium but it

occurs often enough to be important and not infrequently it deceives the examiner into thinking he is dealing with a uterine fibroid. As these cases are not ordinarily included in statistical studies it becomes apparent that the data presented in Table 1 do not adequately picture the true relationship between "clinical" uterine fibroids and carcinoma. It is this practical, everyday aspect of the problem with which we are concerned, not the well established incidence of association of these tumors as found in the pathology laboratory.

A review of the records of patients seen in the Gynecology Clinic at the University of Michigan Hospital since July, 1931, re-

\*From the Department of Obstetrics and Gynecology, University of Michigan, Ann Arbor, Michigan. Read before the Section on Obstetrics and Gynecology, Michigan State Medical Society, Battle Creek, September 11, 1934.

†Dr. Miller is professor of Obstetrics and Gynecology, University of Michigan Medical School.



TABLE 1†

Author	Total number of myomatous uteri	Per cent incidence of cancer	
		Corpus	Cervix
Kelly-Cullen .....	1400 1674	(25 cases) 1.7 per cent .....	(18 cases) 1 per cent
Noble (composite series).....	2274	(43 cases) 1.8 per cent	(16 cases) 0.7 per cent
Noble (personal series).....	337	2.6 per cent	1.4 per cent
Winter (composite series).....	1270 1607	..... 1.2 per cent	2 per cent
Isbruch .....	1608	2.45 per cent	
Weibel .....	1000	2 per cent	
Norris and Vogt.....	1983	1.2 per cent	
Frankl, O.....	1878	0.53 per cent	3.3 per cent
McDonald, E.....	700	2.9 per cent	0.8 per cent
Franz, K.....	463	1.5 per cent	0.64 per cent

vealed 244 patients with a clinical diagnosis of uterine fibroid. Of this number 102 were admitted to the hospital for treatment. Twelve, or 11.7 per cent, of those admitted for treatment had either a co-existing carcinoma of the uterine body or else a corpus cancer without any fibroid. Since only seven of the twelve had a laparotomy for removal of the lesion the presence or absence of a fibroid could not be microscopically proved in all cases.

Of the seven operated upon five had definite large fibroids, one had a small myoma, and one revealed no fibroid. The other five patients were treated with radiation therapy. Significant we believe is the fact that of the 102 patients with a "clinical" diagnosis of uterine fibroids admitted for treatment, twelve, or 11.7 per cent, had adenocarcinoma of the uterine corpus. As has been pointed out, this incidence cannot be compared with the figures in Table 1 since we are dealing here with a practical aspect of the problem, which does not permit such comparison. In all instances a "clinical" diagnosis of uterine fibroid was made. In four the coexistence of a carcinoma was suspected and the presence of a carcinoma was proved in all twelve instances by microscopic examination of the curettings or tissue removed at the time of operation. Because we believe that our findings may be accepted as representing at least

average clinical diagnostic ability, we are more than a little bit impressed with the need for diagnostic curettage in the management of these cases, a procedure which has been routine with us in the treatment of uterine fibroids since July, 1931. Our findings force us to disagree emphatically with Martzloff, who states that "curettage as a routine at the time of supravaginal hysterectomy for uterine fibroids has rightfully become almost obsolete."<sup>1</sup> In 1923 Norris and Vogt<sup>2</sup> pointed out that "myomata are the most common uterine neoplasms and their association with uterine cancer is by no means infrequent." In their series of 115 carcinomas of the body of the uterus (reported in 1923) twenty-four were associated with myomata. In 25 per cent of their series (of carcinomas of the uterine body) the clinical diagnosis was that of a benign neoplasm, a fact which strongly supports our contention that diagnostic curettage should be an important preliminary step in the treatment of uterine fibroids.

Since the area of carcinomatous involvement may be small the curettement should be thorough. Office curettage is seldom adequate enough to warrant its advocacy in this connection.

Further analysis of the twelve cases showing adenocarcinoma revealed the youngest to be thirty-eight and the oldest fifty-six years of age. The symptoms were varied,

†From Curtis, *Obstetrics and Gynecology*, Vol. II, 1933.

some of these cases presenting more than one symptom; ten complained of menorrhagia, five of both irregular and excessive bleeding, and two complained only of an abdominal tumor. Since the fibroid is usually quite obvious, any symptoms which might, under other circumstances, cause one to suspect an associated carcinoma are overlooked or attributed to the benign tumor.

While it is not our intention to discuss the subject of treatment beyond the advisability of preceding any form of therapy with diagnostic curettage, a brief outline of steps taken in the management of these cases at the University Hospital may be of value.

If operative treatment is decided upon these procedures are followed:

1. Diagnostic curettage.
2. Frozen section diagnosis.
3. If no cancer is found conization of the cervix followed by subtotal or total hysterectomy unless myomectomy is indicated.
4. If the curettings reveal the presence of cancer nothing more is done until the patient has received preoperative irradiation treatment, which is followed in five to six weeks by total hysterectomy and bilateral salpingo-oöphorectomy.

If radium is preferred the procedure is as follows:

1. Diagnostic curettage.
2. Frozen section diagnosis or regular two hour tissue preparation.
3. Intrauterine application of properly screened radium.
4. If tissue reveals no cancer the radium is removed on schedule. But if cancer be present the radium is left in for a longer time and followed in five to six weeks by hysterectomy or additional irradiation therapy.

If x-ray is used, a diagnostic curettage is advised as a preliminary step.

Though in some instances it is possible to make a diagnosis of cancer by gross inspection of the curettings it must be remembered that this is a thoroughly unreliable method. Facilities for frozen section diagnosis make curettage particularly helpful. Where this convenience is not available we believe it wiser to defer surgical treatment until suspicious curettings have been studied in the regular way.

One cannot undertake a discussion of this sort without also considering questions which have an important bearing on the subject. Thus it must be admitted that curettage is not always the simple, harmless procedure it appears to be. There are potential dangers which warrant mention. There is always a possibility of tearing the cervix, of spreading infection or disseminating malignant growth, of perforating the uterus and traumatizing adjacent organs or viscera. These are real possibilities, but they seldom occur if the operation is carefully performed by competent hands. Certainly the advantages of curettage as a diagnostic procedure prior to specific treatment in these cases far outweigh its potential dangers.

Like most diagnostic procedures, curettage also is of limited value, for it cannot be relied upon as a diagnostic aid in patients with fibroids undergoing sarcomatous change or even in all cases with an associated adenocarcinoma. These limitations should not, however, forestall its use.

Mention must also be made of routine total hysterectomy. There is much to be said in favor of this procedure, but we cannot agree that it eliminates the need for curettage. There is an increasing tendency among gynecologists to favor irradiation therapy prior to hysterectomy for adenocarcinoma of the uterine body. Consequently, should surgical treatment be carried out for this condition without preliminary irradiation, we may be exposed to the criticism that the patient was not given the best possible treatment. Furthermore, we must not forget the fact that the vast majority of fibroids are treated by surgeons in whose hands total hysterectomy carries with it a distinctly higher morbidity and mortality rate and should therefore be avoided except where the existing pathology warrants this increased hazard.

Finally, it must be remembered that, while surgery is among gynecologists the preferred method of treatment for fibroids there is, nevertheless, a growing inclination in many communities to treat these tumors by means of irradiation therapy. In properly selected cases this form of treatment is successful. Yet there exists a greater likelihood of overlooking a co-existing adenocarcinoma. This is particularly true when x-ray is utilized because it can be given so conveniently and without an an-

esthetic or need for hospitalization. The claim that a co-existing carcinoma will show up later and can then be treated is scarcely valid, since the valuable time lost may prove an insurmountable obstacle to ultimate cure.

Bearing in mind the frequent association of malignancy of the uterus and uterine fibroids and the uncertainty of diagnosis from the clinical picture alone, we believe it imperative that a diagnostic curettage precede all forms of treatment for uterine fibroids. By so doing the physician will be better guided in the treatment of his patient and injudicious radiation therapy or unnecessary radical pelvic surgery will be minimized.

### Conclusions

1. Age, pelvic findings, and type of abnormal bleeding are seldom sufficient to permit a clinical diagnosis of adenocarcinoma associated with uterine fibroids.

2. The co-existence of adenocarcinoma and uterine fibroids is sufficiently common to make it of considerable clinical importance.

3. Surgical or radiation treatment of uterine fibroids should always be preceded by careful diagnostic curettage.

### References

1. Curtis: *Obstetrics and Gynecology*, Vol. II, 1933.
2. Norris and Vogt: *Amer. Jour. Obstet. and Gynec.*, 7:550-566, 1923.

## MALIGNANT NEUTROPENIA: ITS ETIOLOGY AND TREATMENT\*

WILLIAM HENRY GORDON, M.D., F.A.C.P.†

DETROIT, MICHIGAN

Because of the confusion which has arisen as to the etiology of malignant neutropenia in the recent literature, as well as the diversity of treatment of the condition, this study of the various etiological factors which have been suggested, and also the different treatments which have been used, is presented.

The title is synonymous with the accompanying various terminations which have been given by different authors.

### VARIOUS TERMINATIONS BY AUTHORS

Agranulocytosis .....	Schultz
Agranulocytic angina .....	Friedman
Malignant neutropenia .....	Schilling
Agranulocytosis septicemia simplex.....	Jasse
Hypogranulocytosis .....	Connor, etc.
Idiopathic neutropenia .....	Balbridge, Needles
Mucositis necroticans agranulocytica.....	J. Weiss
Agranulosis .....	Brooks
Pernicious leukopenia .....	Fitz-Hugh
Granulopenia .....	H. Harkin
Granulocytopenia .....	H. Harkin

It is a condition characterized by an acute onset of marked malaise, prostration, weakness and high fever which may or may not be accompanied by ulcerative and gangrenous angina of the buccal mucosa, and occasionally is associated with ulcerations and gangrene of other mucous membrane and skin. It always shows a partial or total

leukopenia accompanied by absence of polymorphonuclears.

The following classification covers all the various etiological factors that have been presented in the literature:

- A. Unknown
- B. Chemicals and Drugs
- C. Bacterial and Protozoan (Acute and Chronic)
- D. Allergic
- E. Embryonic
- F. Biological
- G. Physical
- H. Incidental
- I. Endocrine
- J. Experimental

Under "Unknown" must be placed the malignant neutropenia which was first described by Schultz in 1922.

Under "Chemicals and Drugs" must be placed the pictures of depressed white blood cells with lowering or absence of the

\*Read before the Section in Medicine, 114th Annual Meeting, Michigan State Medical Society, Battle Creek, September, 1934.

†Dr. Gordon is a graduate of the University of Michigan Medical School, June, 1916. He is attending physician at Harper Hospital, Herman Kiefer Hospital, and Chief of Medicine of the North End Clinic, Detroit.



leukocytes which occurs in people exposed to benzol, hydrocarbon, and trinitrotoluene, and also the cases that occurred following the treatment of some condition with arsenobenzol, bismuth, bismarsen, amidopyrine, barbital, dinitrophenol, and other drugs of that group. These have all been very well described in the literature as definite causes by various authors.

The following have all been described as accompanying or etiological factors: streptococcus of all types, and also unclassified types, staphylococcus albus and aureus, Vincent's spirillum and fusiform bacillus, pneumococcus, Gram-negative and Gram-positive cocci, Gram-negative and Gram-positive bacilli, bacillus coli, bacillus pyocyaneus, bacillus subtilis, meningococcus diphtheria bacillus, and the gas gangrene bacillus.

Acute Vincent's angina, severe local and general sepsis, epidemic influenza, pneumonia, malaria, and meningitis have been accompanied by or followed by this condition.

Malignant neutropenia has developed in individuals while they were under treatment or observation for cholecystitis, cardiac disease, arthritis, intestinal diseases (such as amebic and ulcerative colitis), furunculosis, syphilis, tuberculosis, and carcinoma.

Allergy, particularly asthma, has been reported several times to be one of the causes of malignant neutropenia. One writer has seen the disease following the use of pent-nucleotide. A few observers believe that malignant neutropenia occurs as an allergic reaction following pyramidon therapy.

A congenital deficiency of the bone marrow anlage often exists, and a maturation arrest has been described by some authors as the cause of malignant neutropenia.

Biologically, it has followed the use of prophylactic typhoid serum and diphtheria antitoxin.

Physically, it has followed the use of x-ray therapy. Extraction of teeth and fractures of bones, especially skull and leg bones, and other injuries of the bone have been attributed as etiological factors.

The menses and pregnancy have also been described as etiological factors.

The experimental causes, such as benzol, bacillus, pyocyaneus, salmonella suispestifer, and different types of bacteria used in the abdomen and in the blood stream, and drugs

of the benzene series have been said to produce malignant neutropenia in the laboratory.

Kracke, in his study of the causes of death from the United States Census Bureau, found that a large percentage of patients who had malignant neutropenia were women, and that a very good percentage occurred among physicians, nurses, relatives of people connected with the medical profession, hospital maids, medical students, and laboratory technicians. In the study presented herein of over seven hundred cases, which includes fifty-nine cases seen by the writer and the remainder from the literature, it was found that about twenty per cent of the patients were from the group closely related to the medical profession. All these fifty-nine patients from the medical profession and others were closely questioned as to the use of drugs which they received as samples and also those prescribed by physicians, and in only one case can the intake of medicines of the benzene series be attributed, and that indirectly, to the etiology, of malignant neutropenia. As a result of this study, in my opinion, malignant neutropenia cannot definitely be attributed to the careless use of drugs.

Because of the multiplicity of etiological factors which are herein given, it is believed that the absolute etiology of the disease is still unknown. In the past experience with other diseases, having a multitude of etilogic factors, an entirely different cause was usually found.

#### AGE AND SEX INCIDENCE

Ages	Cases in Literature			Private Cases		
	Female	Male	Total	Female	Male	Total
70-80	7	8	15	1	0	1
60-69	51	29	80	2	4	6
50-59	102	35	137	14	4	18
40-49	105	44	149	9	4	13
30-39	96	30	126	5	2	7
20-29	53	33	86	8	2	10
10-19	19	15	34	1	2	3
0-9	10	9	19	0	1	1
Total cases	443	203	645	40	19	59
Per cent	68.9	31.1	100	67.7	32.3	100

An outline is presented here of the age and sex incidence of six hundred forty-five cases from the literature, plus fifty-nine private cases. As is noted, about two-thirds of



the cases occur in females, the other third being in males, and the most marked incidence is between thirty and sixty years of age.

Several cases in my series developed malignant neutropenia while under observation in the hospital. They were under no drug medication and had not any of the infections mentioned as causes at the time of observation. It is my opinion that when the blood culture was positive, it was a secondary factor rather than the primary cause, due to invasion of a system with a markedly lowered resistance as a result of the absence of the leukocyte.

A questionnaire was mailed to a number of observers and not one of them reported the intake of drugs before the onset of the malignant neutropenia. As substantiating evidence, letters received from heads of large psychiatric institutions report that they have noted no cases of malignant neutropenia develop following the intake of large doses of the barbitol group over a long period of time.

A "Clinical Classification of Leukopenias" is presented in an attempt to establish an etiology.

#### CLINICAL CLASSIFICATION OF LEUKOPENIAS

##### TYPE I—*Physiological*:

- Digestive (normally, white blood cells and constituents change during the day)
- Storage (spleen, liver, bones, etc.)

##### TYPE II—*Leukolytic*:

- Exogenous (external noxious agents, *i.e.*, bacterial, chemical, allergic, etc.)
- Endogenous (endocrine, metabolic, or constitutional, allergic)

##### TYPE III—*Digestive*:

- Increased permeability of leukocytes and their appearance in digestive juices in increasing numbers concurrently with their decrease in blood (seen with pyramidon)

##### TYPE IV—*Malignant* (Primary bone marrow disease):

- (a) Deficiency
  - 1. Congenital changes in anlage
  - 2. Decrease or absence of a necessary substance
- (b) Paralytic
  - 1. Suppression in formation (maturation arrest)
  - 2. Suppression in delivery
- (c) Destructive
  - 1. Congenital changes in anlage
  - 2. Decrease or absence of a necessary substance
  - 3. Malignancy
  - 4. Metastatic bacterial invasion

Under the heading *Physiological*, there is little to say, since it is a commonly accepted fact that the leukocyte level varies at different times of the day under normal conditions.

Under the heading *Leukolytic* the exogenous is caused by external agents, such as bacteria, chemicals, allergy, etc., and the endogenous is caused by endocrine, metabolic constitutional, or allergic changes. These produce a decrease in the peripheral circulation of the white blood cells by their destruction. Examination of the bone marrow reveals no changes and these patients usually improve from their leukopenia.

Under the heading *Digestive* an increased permeability of the leukocytes and their appearance in the digestive juices in increasing numbers occurs concurrently with their decrease in the blood stream. This has been described by Sturgis and his associates of Ann Arbor in their studies with pyramidon in the treatment of rheumatism. They found that in one case treated with 40 grains of pyramidon daily for rheumatism, after a period of about three weeks the white blood count which was done daily began to fall and reached about 2800 with a polymorphonuclear percentage of 48 per cent. As soon as the pyramidon was stopped, the blood count gradually returned to normal.

Under the *Malignant* type, there exists primary bone marrow disease. The first type of this condition is the congenital deficiency due to changes in the anlage of the primary bone marrow cell. These patients have always been ill, and have always shown an atypical blood count. They are the patients who develop the fulminating type of this disease, and do not react to any type of treatment. The other type is characterized by an inability of the primary cell to reproduce because of an absence of a necessary substance. These cases are the ones in whom treatment gives good results.

The second or paralytic type is the type where there is suppression in the formation of the cells. This suppression is due either to a paralysis of the primary reticulo-endothelial system or to the lack of some substance such as a hormone that is necessary in the formation of the cell. This is termed a maturation arrest. There also may occur a diminished supply of this substance or hormone which results in a failure of the cell to reach its normal size. The suppression in delivery of the cells is due to a loss

in power of the bone marrow to perform this function. In these cases there is an increased number of white blood cells in the bone marrow and a decreased number in the blood stream.

The third or destructive type is subdivided into three parts. The first two causes are well described under deficiency. The third is caused by an invasion of the bone marrow with malignant cells, destroying the bone marrow, and consequently less or no white blood cells are produced. The fourth is caused by metastatic bacterial invasion of the bone marrow producing a similar destruction. There also may be a gangrene of the bone marrow as a result of a deficient or paralytic bone marrow.

Experimentation may reveal a substance that will stimulate the production of white blood cells in malignant neutropenia in the same manner that *ventriculin* stimulates the production of red blood cells in pernicious anemia.

The apparent best results obtained in the treatment of malignant neutropenia have been through the use of blood transfusions, nucleotides or their derivatives, and x-rays. It is possible that these forms of treatment have the same effect upon the system by giving to it the products of the destroyed nucleus which are necessary in the production of the white blood cell.

In the treatment of malignant neutropenia the following types have been presented in the vast literature:

- A. Blood
- B. Biological
- C. Bacteriological
- D. Glandular
- E. Physical
- F. Chemical
- G. General
- H. Local

As you note, a great variety of substances have been used. Blood transfusions have been employed very extensively. Both the direct and indirect methods have been used with the whole blood or citrated blood. The blood has been introduced intravenously, intramuscularly, and intraperitoneally. Blood has been injected from the normal healthy individual and from the individual who has apparently recovered from malignant neutropenia. Biologic products, such as nucleic acid, nucleotide, leukocytic cream, bone marrow, sterile milk and foreign pro-

teins have been found of much value. The bacteriological products that have received favor are typhoid vaccine, bacteriophages, and bacterial serums. The greater percentage of glandular products have been obtained from the liver, fetal and adult spleen, thyroid and the adrenals. The physical forms of treatment have been the x-rays, radium and sterile abscesses. The chemical substances are adenine sulphate, purine base, calcium sulphate, and arsphenamine. The general forms of treatment have been in conjunction with the apparent specific form of therapy with stimulation, intravenous glucose and saline, diet, and locally, the mouth washes, irrigations and oral hygiene.

All these forms of treatment have been employed with success by some investigators and failure by others according to the reports in the literature.

The routine in treatment that I have followed and found to be most successful includes the general and specific forms of therapy that lead to an increase in nuclein or its by-products in the body. General systemic stimulation is given, accompanied by intravenous glucose and saline, mouth washes, irrigations and oral hygiene. A high nuclein diet is given. Small blood transfusions of whole or citrated blood have been most valuable. When there are signs of jaundice or of liver exhaustion, blood transfusions should not be given, as an increased strain on the liver will result in a breaking down of the blood and destruction of the elements. Forty cubic centimeters of whole blood is given intramuscularly twice a day in the same site of injection. The irritation of the muscular tissue probably produces a substance which stimulates the bone marrow. Also, it is of value because a concentrated form of nuclear material is given to the body. Another reason is that possibly a substance exists in the normal blood that is lacking in the individual with malignant neutropenia.

Nucleotide and nucleic acid are next in importance in the treatment. Nucleic acid was first used by Dr. Hugo Freund at Harper Hospital, and since that time has been used in form of pentnucleotide extensively with many favorable results. This produces an irritating stimulation and supplies a concentrated form of nuclein to the body to stimulate the production of white blood cells.

Many of the other forms of treatment have been used, but the above have consistently given the favorable results.

In conclusion, the etiology of malignant neutropenia is not in the group of causes listed as offered in the literature. The cause may be a deficiency of some substance that will correspond to ventriculin in pernicious anemia. Drugs, chemicals and bacteria, etc., are secondary factors in the etiology.

In the treatment, the individual should be

considered a seriously ill patient. General care and local therapy are very important. Blood transfusions, intramuscular blood and nucleotide are the most valuable assets in the treatment of malignant neutropenia. The cases that recover should receive careful after-care and study over a long period of time.

### Bibliography

(The bibliography of this paper includes 767 papers from the literature, which is altogether too long for publication.)

## THE MANAGEMENT OF GLAUCOMA\*

F. BRUCE FRALICK, M.D.†

ANN ARBOR, MICHIGAN

When one feels that he has arrived at a point of efficiency where he is able to instruct his colleagues in a management of glaucoma which gives a high percentage of good results, he needs only to review a series of his own glaucoma cases to be convinced that there is yet a great deal to be learned before we can be overly proud of our therapeutic results in this serious condition.

This paper is written with the intention of presenting for your consideration the comparative results of various forms of glaucoma therapy on a limited number of cases seen in our state hospital during the past five years. The records indicate little method in the selection of the cases for the various procedures undertaken; undoubtedly due to the ever changing tendencies in glaucoma management. In a large measure, we may therefore consider the tabulated results as a true comparison of the various forms of glaucoma management used.

### Diagnosis

The diagnosis of glaucoma is usually a relatively simple procedure. There is, however, a group of cases which have all the typical signs of glaucoma simplex, and yet seldom if ever is an increase in tension recorded during an office visit. Some of the cases which are often placed in this group should not, in my opinion, be classed as glaucoma since they do not at any time present an increase in intra-ocular tension. A recent article by A. Knapp<sup>3</sup> may offer an explanation for some of these cases. Those individuals, however, who do have the transient increases in tension, glaucoma field changes, etc., are often a problem requiring

special investigation. Many are explained by taking the tension at various periods during the day and night. Often these patients do not show an elevation in tension except during the early morning hours when they have been sleeping. These cases should receive their miotic during or preceding the time when the tension is elevated if the medical therapy is to be followed. It has been our custom to make these tension studies at the hours of 7-12-4-7 during the day and at 12-4 during the night. Jackson's mydriatic test is also helpful in this group but the patient must be under your constant observation while under the mydriatic.

### Social Service of Glaucoma

The necessity of acquainting the glaucoma patient with her condition is often neglected in a busy practice or clinic and as a result these patients are lost sight of till they visit another physician or later return with a much more advanced condition to care for. Most patients are grateful to the doctor who takes the time to inform them of the seriousness and prognosis of glaucoma. With this information they may better see the need of following instructions than if they

\*From the Department of Ophthalmology, University of Michigan. Read before the Section on Ophthalmology at the 113th annual meeting of the Michigan State Medical Society, Grand Rapids, September 13, 1933.

†Dr. Fralick is Associate Professor of Ophthalmology, University of Michigan.



TABLE 1. MANAGEMENT OF GLAUCOMA

	Miotics			Trepines			Iridectomies		
	Glaucoma simplex	Ac. inflam. glaucoma	Chr. inflam. glaucoma	Glaucoma simplex	Ac. inflam. glaucoma	Chr. inflam. glaucoma	Glaucoma simplex	Ac. inflam. glaucoma	Chr. inflam. glaucoma
Number of cases used for study between years 1925-1932	210	5	28	79	2	13	37	6	14
Tension kept within normal limits while under observation	29.0	20.0	3.6	68.3	100.0	38.5	35.1	33.1	28.5
Tension partly reduced—kept normal with miotics	....	....	....	11.4	....	7.7	24.3	....	21.5
Tension controlled—Total per cent	29.0	20.0	3.5	79.7	100.0	46.2	59.4	33.1	50.0
Tension partly reduced but not kept within normal limits with miotics	31.9	20.0	17.8	8.9	....	30.7	29.8	16.9	28.5
Tension persisted in spite of therapy—Per cent	39.1	60.0	28.6	11.4	....	23.1	10.8	50.0	21.5
Tension not controlled—Total per cent	71.0	80.0	96.4	20.3	....	53.8	40.6	66.9	50.0
Average reduction in tension in M. M. Hg. Schiotz	16.0	38.5	15.4	29.0	40.5	39.8	25.4	66.0	34.8
Average duration in months of normal tension without miotics while observed	....	....	....	23.8	6.5	17.3	37.4	3.5	2.5
Average duration in months of normal tension with miotics while observed	15.4	2.5	2.0	20.4	....	6.0	32.9	....	11.6

are not so informed. It is entirely ethical and advisable to establish a follow-up system whereby your patients are reminded when their glaucomatous condition should be reviewed. We are indebted to the late Dr. George Derby for demonstrating the practicability of carrying out this form of social service. The necessity of periodic examinations, even when under control, should be firmly fixed in the patient's mind, since only in that way are we able to be of lasting benefit to them.

### Periodic Examinations

The periodic examination should consist of taking the visual acuity, the intra-ocular tension with the tenometer, and the visual fields. Glaucoma fields are of value in determining the degree of general form depression and to note the appearance or progression of Siedel's sign, Bjerrum's scotoma, and the nasal or Ronnè step. A loss in visual acuity, persistence or recurrence of increased intra-ocular tension or progression in the visual field changes, indicates the inadequacy of the present therapy.

### Choice of Therapy

In the choice of the therapy for any individual case, our judgment is influenced by many factors. If the patients' intelligence is low, they cannot be trusted to follow miotic therapy as instructed. Surgery here is more reliable. Intelligent patients living relatively near can often be kept under control with miotics for a long time. The intelligent patient whose finances are not sufficient to carry out miotic therapy for the remainder of their life would do better to choose the surgical management. In all events, if surgery is to be contemplated eventually, it is best to resort to it as soon as possible, since surgery gives its best results in early cases.

### Medical Management

With glaucosan we have had little experience because of its prohibitive cost. Dependence is placed upon pilocarpin and massage as a routine medical therapy. The efficiency of the miotic therapy is dependent upon the degree of miosis obtained. If a  $\frac{1}{2}\%$  pilocarpin solution produces a maximum of miosis and yet the tension is not re-

duced to normal, stronger miotics have given us no further reduction in tension. Eserin tends to cause ciliary cramp and has a marked tendency to produce a conjunctival reaction after continued use. In some cases this eserin reaction may assume alarming proportions. It is easily overcome by substituting pilocarpin for the eserin, washing the skin of the lids and applying zinc oxide ointment to the involved areas. Tensions in the thirties are usually controlled for a time by 1 per cent pilocarpin while tensions in the forties or above may require 2 per cent pilocarpin. Stronger miotics are seldom advisable for continued use since the threshold of safety is too low. A combination of 1 per cent eserin and 2 per cent pilocarpin



Fig. 1. Photomicrograph of the normal filtration angle. Note the free filtration through the sclero-corneal trabeculum into the canal of Schlemm.

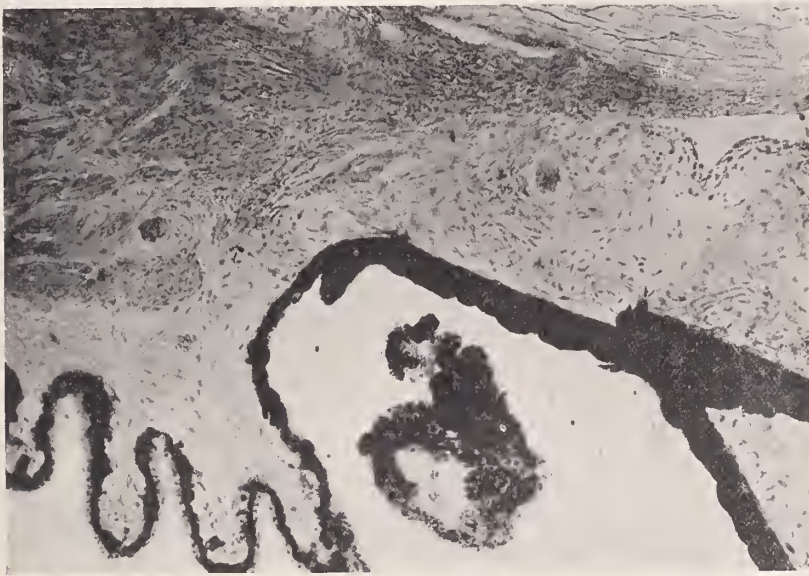


Fig. 2. Incipient Glaucoma. Photomicrograph showing the iris base pushed forward against the sclero-corneal trabeculum, partly but not completely blocking the filtration angle. There is no fibroblastic infiltration from the iris into the trabecular fibers. This is a mechanical blocking which theoretically should be relieved by removal of the iris base by iridectomy. H. and E. X 160.

may be used in desperate cases for a short time, but it seems best to institute surgery as soon as possible in this latter class.

### Surgical Management

In the surgical management of glaucoma, we have many operations from which to choose. Those surgical measures used to temporarily reduce the tension are the posterior sclerotomy and the corneal paracentesis. The former has given us very poor results and the damage to the choroid and retina with hemorrhages into the vitreous have caused the posterior sclerotomy to be

considered as an unsurgical procedure in our hands. The corneal paracentesis gives us very good results. The trauma is slight, the decrease in tension is complete and it is therefore very satisfactory as a preliminary to other surgical measures. A paracentesis followed by miotics often allows continued control after acute attacks. We do not use corneal paracentesis except in acute attacks of glaucoma and secondary glaucoma. In secondary glaucoma, corneal paracentesis has its greatest value since the corneal puncture may be repeatedly opened without danger.



The operations for permanent reduction in tension all seem to have a definite place in our surgical management of glaucoma. A review of the pathology of the filtration angle will help us to determine which operation theoretically will give the most per-



Fig. 3. Photomicrograph of the anterior segment of a globe presenting absolute glaucoma. Iris is atrophic and its base is adherent to the cornea anteriorly. There is definite connective tissue infiltration into the sclero-corneal trabeculum and canal of Schlemm, thus destroying its filtration function. One of the filtration forms of operation is indicated here.

manent results. Incipient glaucoma eyes present no actual adhesion between the iris base and the sclerocorneal trabeculum. There is no destruction of the trabeculum by infiltration with connective tissue from the adjacent iris. It is conceivable that it is this group of cases which would receive lasting benefit from an iridectomy. The operation, however, must be done early in the course of the disease. As the disease advances, the iris base becomes definitely fused with the sclerocorneal angle, fibroblasts proliferate into the trabecular fibers, thus destroying permanently its function of filtration. To remove the base of the iris in these more advanced cases would be of no benefit since it does not open the filtration channels. Here the filtration operations seem to give a higher percentage of good results.

It is impossible to determine clinically the degree of sclerosis of the filtration angle without very specialized apparatus. It is for this reason that we have to exercise our judgment in the operative procedure we contemplate using. We may logically assume that the cases with little field changes and fairly good vision but with an intra-ocular tension not controlled consistently with miotics are candidates for iridectomy while those showing field changes and loss

of vision would do best by one of the filtration operations.

With cyclodialysis we have had little experience. It has been resorted to only where all other methods have failed, and in this respect our experience agrees with the statement recently made by Ellett, that any operative procedure which is undertaken as a last resort is doomed to failure. On the continent, cyclodialysis is being used extensively in those cases where the visual fields show marked encroachment on the fixation area. This group of cases also seem to do well with the iris inclusion operation or iridocleisis as advocated by Holth<sup>2</sup> and others.<sup>1</sup> Our series of this latter procedure is as yet too small to permit comparison. Those we have performed have, up to the present time, been very satisfactory and have not been accompanied by further field loss post-operatively as so often occurs after the trephine operation in these advanced cases.

### Comparative Results with Methods Used

Every ophthalmic surgeon has learned that the immediate results in glaucoma are very misleading. The longer the period of observation after glaucoma surgery the truer will be the conception of the comparative merits of the various operations used. Our past inability to keep track of our glaucomatous patients has not allowed us to give comparative results as regards the average duration of permanent reduction in tension. We may, however, consider a one to three year average observation period as a basis for comparison of temporary control. Only those cases which were observed for at least one month were used in this study.

The comparative results of miotics, trephines, and iridectomies as shown in the table are of little value in acute glaucoma because of the very limited number of cases which could be used for study. The glaucoma simplex cases were controlled by miotics in 29 per cent of cases. These results are in sharp contrast to the strikingly better showing made with the operative management. We consider that operation alone or operation supplemented by miotics should be grouped together in a study of this type as long as they are able to control the tension, etc. We therefore find that 79.7 per cent of the simplex group were controlled by trephine and only 59.4 per cent by iridectomy.

A much poorer showing was made in all forms of therapy when chronic inflammatory glaucoma was reviewed. Miotics alone were of little benefit, only 3.6 per cent of cases being controlled, while trephines controlled 46.2 per cent and iridectomies 50 per cent.

### Conclusions

1. The belief that there is no such classification as glaucoma without tension is held. Tension studies will reveal the existence of a transient tension increase at some time of the day or night.

2. A plea is made for instituting a social service follow-up system to protect the glaucoma patient from his own negligence.

3. The choice of therapy depends upon the patient's intelligence, his finances, remoteness from adequate medical care and the state of advancement of the glaucoma itself. In early cases miotics or iridectomy may be sufficient; in late cases some form of filtration operation is indicated.

4. The trephine operation, supplemented

by miotics if needed, has given a far higher percentage of glaucoma control in this series than with any other method.

5. Glaucoma simplex cases were controlled by miotics in 29.0 per cent, by trephine in 79.7 per cent, and by iridectomy in 59.4 per cent.

6. Chronic inflammatory glaucoma cases were controlled by miotics in 3.6 per cent, by trephines in 46.2 per cent, and by iridectomy in 50 per cent.

7. The high percentages of poor results through the use of miotics alone (glaucoma simplex 71.0 per cent, chronic inflammatory glaucoma 96.4 per cent) hardly justifies their continued use when the visual fields and vision begin to lose ground.

### Bibliography

1. Gjessing, H.: Über die Iridenkleisis antiglaukomatosa: Iridectomy meridionali nach Holth, Verhandl. d. a. Tagung d. Ophth. Gesellsch. in Wien., August, 1921, Berlin, S. Karger, p. 76, 1922.
2. Holth, S.: Irideucleisis cum Iridotomia Meridionali. 4:803-816, (December) 1930.
3. Knapp, A.: Association of sclerosis of the cerebral basal vessels with optic atrophy and cupping, Arch. Ophth., 8:637-648, (November) 1932.

## SOLITARY INTRAMURAL FIBROMA OF THE PYLORUS

### A Case Report

DANIEL J. LEITHAUSER, M.D., F.A.C.S.,† and MEYER O. CANTOR, B.A., M.D.‡

DETROIT, MICHIGAN

Small fibromata within the body may cause a very distressing train of symptoms, or may be asymptomatic, dependent upon their site of growth. The asymptomatic fibromata within the body are undiagnosable clinically, being found at operation for some other condition or are noted at autopsy. The moment one of these benign tumors, by its position, interferes with the physiological function of an organ or hollow viscus, then it becomes a diagnostic problem, and often a major one.

The most uncommon benign tumor of the stomach is the intramural solitary fibroma.

Many writers seem to doubt the existence of this uncommon tumor type in its pure form. We believe this to be due to the clinician's inability to diagnose these benign tumors at an early period when they are small, as the symptoms and signs are either absent or are not characteristic of any organic gastric lesion. Our case falls into the small group of solitary intramural fibromata of the pylorus. These tumors are found more often in males than in females, and

are found chiefly at the pylorus.<sup>2</sup> They are said to have an incidence of 0.1 per cent.

### Pathology—Symptomatology

The small intramural fibromata may be single or multiple, and vary in size to six centimeters, whereas the fibro-myomata and myomata are larger, having been reported weighing two pounds (Blaxland<sup>1</sup>). Myomata or fibro-myomata grow slowly, and usually away from the lumen of the viscus, thus producing no interference with the function of the organ until their size causes a mechanical hindrance to the normal emptying of the stomach. A small fibroma, however, in its

†Dr. Leithauser is a graduate of the medical department of Ohio State University, 1915. He specializes in surgery. He has been long connected with the Deaconess Hospital, Detroit.

‡Dr. Cantor is a graduate of the University of Michigan, class of 1930.



usual location, the pylorus, is prone to cause early pronounced gastric symptoms. Epigastric fullness, belching, and regurgitation are the symptoms which most commonly

each meal. Epigastric fullness and belching were noted at this time. These latter symptoms became increasingly more severe until one year ago. From this time on, he began to regurgitate his food if a normal meal were ingested. He was able to eat



Fig. 1. Note the persistent narrowing and lengthening of the pylorus. This was present in the entire series.

occur. When the tumor causes erosion of the gastric mucosa, occult blood will be found in the stool. Achlorhydria is not uncommon in these cases. This finding with the occult blood in an elderly cachectic individual complaining of epigastric distress arouses the clinical suspicion of gastric malignancy. In such cases, the roentgen examination may resemble malignancy so closely as to make the correct diagnosis impossible except by biopsy. A recognition of the fact that a benign gastric lesion may be present is of the greatest importance to the surgeon, as these tumors are often small and their consistency elastic, with the result that palpation of the pylorus at operation may delude one into the error that no lesion was present.

### Case Report

W. L., a white man, aged fifty-four, was first seen by one of us (D. J. L.) on January 23, 1933, at which time he complained of a pain in the epigastrium. This distress was first noted six years previously, occurring at times after meals, but without any definite relationship to them. The pain was gnawing in character. Baking soda gave him but slight relief. As time went on the pain occurred with increasing regularity after meals until two years ago, when it occurred regularly one-half hour after

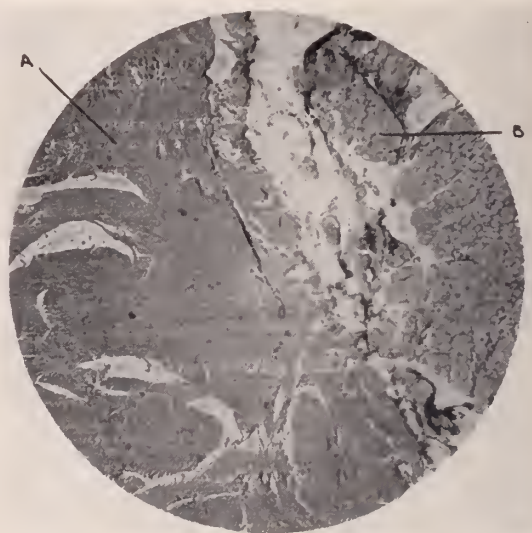


Fig. 2. A, Fibrous connective tissue stroma of the fibroma. B, Gastric mucosa.

only small amounts at a time, chiefly milk and crackers. He never vomited blood or "coffee-ground" vomitus. During the course of the past year, he lost thirty pounds and became very weak. No tarry or bloody stool was noted at any time.

*Examination.*—The patient was a poorly nourished, well developed white man. His skin was dry and very loose. Head, neck and chest examinations were negative. There was slight tenderness to deep palpation over the epigastrium. No masses were palpable. No rigidity. Reflexes were normal. Rectal examination was negative. Blood pressure was 128/80. Blood examinations were normal.

*Gastric analysis.*—No free hydrochloric acid found. No blood. No Boas Apler bacilli. Histamine was not given.

*X-ray.*—A gastro-intestinal series disclosed some persistent lengthening and narrowing of the pylorus in the entire series. No filling defects were noted. No other abnormalities were noted.

*Operation.*—Laparotomy was performed on February 4, 1933. There was no visible abnormality in the contour of the stomach or upper duodenum. A definite thickening was noted in the posterior wall of the pylorus. The feel imparted was that of a slight hump about one centimeter in diameter, not well defined. There was no adenopathy. With these findings and a history of epigastric pain, vomiting, and a loss of thirty pounds in a man of middle age, we felt that a gastric resection was the operation of choice. The pylorus and about one-third of the lower end of the stomach was resected. The duodenum was closed and the jejunum brought through the transverse mesocolon and sutured to the stomach stoma throughout its entire length.

The post-operative course was uneventful. The duodenal tube was kept in place until the sixth day post-operative, after which he was given full fluids. He was discharged from the hospital on the twentieth day.

*Gross pathology.*—The mass in the posterior wall of the pylorus was not readily detectible. There was no break in the mucous membrane over this mass, nor puckering of the peritoneal surface. On incising the mass a well defined encapsulated tumor one centimeter in diameter and one-half centimeter thick was found.

*Microscopic pathology.*—The gastric mucosa overlying the well encapsulated tumor mass appeared normal. There was no break in its continuity. There was nothing in the submucosa or underlying tissue to indicate any inflammatory reaction in this region. The tumor itself consisted of a uniformly woven fibrous connective tissue. An examination of Figure 2 shows the microscopic histopathology characteristic of a fibroma of the stomach.

### Summary

That pure solitary intramural fibromata of the pylorus do occur is definitely shown. In this case there were no degenerative areas and no indication of previous inflammation or ulcer. This tumor type is very difficult

to diagnose pre-operatively, because of its size and consistency. A surgeon who does not suspect its presence may overlook it at the time of operation. The presence of these undiagnosed small fibromata of the pylorus may account for many of the cases with gastric disturbances in which x-rays and other examinations are seemingly negative for organic disease. Benign stomach tumors as a group should be suspected in any case in which the gastro-intestinal symptoms are not characteristic, especially if the roentgen examination is not diagnostic.

### Bibliography

1. Blaxland, A. J.: Fibro-myoma of the stomach. *British Jour. Surg.*, 19:339, (October) 1931.
2. Willenbacher, M.: Fibro-myoma of the stomach with intermittent ball-valve action at the pylorus. *Zentralblatt f. Chir.*, 55:1424, (June 9) 1933.

## PNEUMONIA—A SHORT CLINICAL LECTURE

WILLIAM M. DONALD, M.D.†

DETROIT, MICHIGAN

Pneumonia has been known to the medical world since the first dawn of medical history. It ranks even yet as probably the most important in the category of diseases. Its mortality is startling and its morbidity cataclysmal. It is the bitter enemy of early childhood, "the captain of the men of death" to adolescents, and the gentle final ministrant to the senescent. In addition to all this, with its varying moods and tenses, its kaleidoscopic changes and its multitudinous manifestations, very readily it can be considered as the protean leader in the roster of diseases.

We are presenting today a history of a case of this disease which demonstrates an unusual type of this protean disease, an unusual diagnostic aid and an unusual ending. It will serve also as a text in a plea for an adjustment of morbidity and mortality rates and in a revision of nomenclature.

### Case Report

The case we present is that of a lad, George S., age seven, an inmate of the Protestant Children's Home of Detroit, who was admitted to the infirmary of that institution at noon October 12, 1934. He had been taken suddenly ill that morning with vomiting of a violent character. There had been no bowel movement for two days and the nurse immediately treated him to a soda enema to give the necessary relief. A copious stool was recovered, but the child apparently was no better therefor. He continued to vomit large amounts of material, some of which was undigested food from the previous day. His temperature ranged from 103 to 104 degrees; his pulse from 120 to 140, and his respirations from 25 to 32.

He was such a sick lad that both Dr. Perlis and

I saw him during the afternoon and evening, but after the most careful examination decided that the diagnosis was entirely uncertain. The suspicion of pneumonia with the usual violent introduction was largely and deeply considered, but the absence of all physical signs and all extraneous symptoms, such as rapid and grunty and painful respiration, flushed cheeks, dilatation of the alae nasi, cough, with or without pain, and a delirium paralleling his high temperature were all absent.

Moreover, in the comparatively near neighborhood, at that time there was a small-sized epidemic of poliomyelitis and the possibility of this being an unusual type of this disease had to be gravely considered. It may be added here, however, that as the days went by there was at no time any suggestion of neurological symptoms which would indicate a case of that disease. Parental reluctance motivated the attending physicians in declining to use spinal puncture, which, of course, would have immediately cleared up this phase of the case. However, close watch was kept of the nervous system and at no time was anything suggestive of poliomyelitis discovered.

He seemed to be entirely too sick a lad to be the victim of an ordinary gastric upset, and yet that phase of the matter was considered in the belief that some food intoxication might be responsible. The continuance of the fever caused us of necessity to rapidly drop this idea as a diagnostic possibility.

The case went along for the succeeding seven days without any appreciable change except com-

†Dr. William Donald is a graduate of McGill University, Montreal, and also the Detroit College of Medicine. He has pursued postgraduate work in New York and also abroad. His practice is limited to internal medicine. He is Professor of Internal Medicine at Wayne University and Chief of Staff of the Protestant Children's Home, Detroit.



plete cessation of the vomiting after he was removed to Grace Hospital three days after he was first taken ill. On the fifth day of his sickness the temperature dropped very suddenly to about 100 and fluctuated between 98 and 101 for the next three days.



Fig. 1.

A paralleling drop in respiration and temperature was noted at the same time.

During this period he was under the observation, not only of myself and Dr. Perlis, but also of Dr. Wishropp, attending pediatrician at Grace Hospital, and also of the resident physician on the ward. Through all this time (and this is the interesting part) despite careful search not a single aberrant sign could be discovered anywhere in the chest, by any of the attendants. Moreover, at no time did the lad show any of the usual signs outside of the chest so common to the pneumonic process. He never coughed for an hour, showed no undue restlessness or delirium despite his high fever, he had no flushed cheeks, he had no nasal dilatation, and generally he did not strike us, after the first two days, as a particularly sick boy. However, through it all and despite the fact that he was symptomless insofar as the chest was concerned, each one of us had back in his mind the feeling that there must be a pneumonic process going on somewhere. The blood findings aided us in this diagnosis as the blood test on the 4th day showed a hemoglobin of 72 per cent, R.B.C., 3,650,000; W.B.C., 24,400. This, of course, was very suggestive of an inflammatory process, presumably in the lungs.

It was then decided on the fifth day of the disease, to get the help of the x-ray on his chest, although, as was remarked a few moments ago, there had not been a single symptom outside of the blood findings, and outside of the violent onset of the disease process, to lead us to any such assumption. This action on our part, as the picture attached will show, was our most constructive piece of work. As will be noted and as the x-ray technician demonstrated to us, the process responsible for all the symptoms in our patient was a well defined inflammatory pneumonic process in the right apex and middle lobe of the lung.

After viewing the x-ray picture two of us took occasion to go over the lad again, examining him with the utmost thoroughness. Now, this is the interesting part of the case: Despite our most careful examination we were unable to detect any change whatever in the percussion note or in the respira-

tory tones even over the area which according to the x-ray picture was sharply diseased and sharply consolidated. It was indeed a striking revelation of the ineptitude of ordinarily accepted physical examinations in some cases of pneumonia. It was also a beautiful demonstration of the value of x-ray pictures in cases of doubtful pulmonary disease.

The next point to consider is the proper terminology to be used in the naming of such a disease process as this. Ordinarily this would be called a case of "root" or "central" pneumonia, despite the fact that clinicians for years have deprecated the use of this term because of the doubt of there being any such pathological process in the root area.

Dr. Holt (L. Emmett), as far back as 1920, put exceedingly well the case against the idea of a "root" or "central" pneumonia in such cases. He says, "That pneumonia may exist only in the center of the lung for a number of days is extremely improbable. At autopsy we have very frequently seen superficial pneumonia, but never central lobar pneumonia. X-ray studies have shown conclusively that with a superficial consolidation no bronchial breathing may be heard even though the consolidation may be fairly extensive. When the process extends towards and reaches the hilus of the lungs, bronchial breathing is readily heard. It is the superficial pneumonia then that escapes detection rather than the central."

To retrogress for a moment, we might refer to the fact which is well recognized, viz., that in many cases, particularly in children, the appearance of the ordinary physical signs of the chest in pneumonia are postponed to the third, fifth, or even the seventh day of the disease. Our case, consequently, does not deserve the spotlight on account of the late appearance (which really amounted to a non-appearance) of the chest symptoms in this case. The condition that makes it a case of rarity and unusualness is the complete elimination from the picture of not only the pulmonic signs but of also every one of the ordinary extraneous physical signs so diagnostic and so usual in this disease. Our experience leads us to believe that it is most unusual to see a case of pneumonia through its whole course without there being a single symptom to point the way to a diagnosis of pneumonia. The dilatation of the alæ nasi so exceedingly common, the flushing of one or both cheeks, the frequency and character of the respiration with its expiratory grunt, the delirium—some one or

all of these is almost constantly present to guide us to a correct conclusion. But here were we groping in the dark until the x-ray vision came to our aid.

Had this been a case in which specific medication in the form of sera had been indicated, and in which the early medication of such might have spelled success as against disaster, or life as against death, our ordinary methods of examination would have proven entirely futile and our patient would have succumbed to our tardiness due to our lack of knowledge. Hence, a strong argument of great force in favor of the early use of the x-ray in cases in which the element of doubt clouds the diagnosis of a possible pneumonia.

Another feature may be considered here, if it is true, as numerous roentgenologists and clinicians assert, that many cases of pneumonia particularly in children run their complete course without a correct diagnosis being made and where the opinion of the attending physician is that they have run through a course of some type of influenza, abdominal or thoracic, and where the disease process is of short duration, the necessity for a correction of statistics both in the morbidity and mortality is apparent. Statistical data undoubtedly would be considerably modified with the aid of the all-seeing eye of the roentgen ray.

### Summary

1. Pneumonia, particularly in the young,

may and often does run a shortened and unusual course.

2. Although the physical findings of the chest may be absent up to the fifth or seventh day, extraneous signs as reported in the paper, are practically always in evidence—not all of them by any means, but one or two which may give a clue to the diagnosis.

3. The blood count with its leukocytic increase is always of great value in doubtful cases.

4. The value of the x-rays in early diagnosis of pneumonia is undoubted and is demonstrated by the case under discussion.

5. The use of the term "root" or "central pneumonia" is deprecated and should be unequivocally discarded.

6. A statistical adjustment of morbidity and mortality rates should be demanded in this disease, if the x-ray continues to prove its worth as an early diagnostic aid.

---

The chief objective finding in pneumonia is an increase in density involving some part of the lung. No other part of the human body, unless it be the bony skeleton, lends itself so admirably to x-ray diagnosis as the organs of the thorax, particularly the lungs. This fact is well recognized in suspected tuberculosis. The x-rays have not been used so frequently as diagnostic agent in pneumonia due to the fact that the pneumonic patient is usually very sick. X-ray apparatus has been developed so that bedridden patients in their own homes may be examined by means of the x-rays with practically no discomfort. Doubtless with the perfection of portable apparatus the general practitioner will resort in greater measure to this means of diagnosis and checking of the progress of his patient.—EDITOR.

## THE EDUCATION OF FRANK ANDREWS

A. W. CRANE, M.D.†

KALAMAZOO, MICHIGAN

We are gathered at this banquet from several towns and cities to honor Dr. Frank E. Andrews, still active in his profession after over half a century of the practice of medicine. The beautifully engraved parchment which has been presented to him informs him that he has been elected an Honorary Member of the Lenawee County Medical Society and Member Emeritus of the Michigan State Medical Society. This is the Society's patent of nobility, conferred not merely for years of practice, but for character, achievement, service to his fellowmen, and fidelity to his profession.

---

It is a privilege to pay tribute to my friend, in the midst of his brother practitioners, and in the city of his birth which he has served with such distinction as physician, mayor and citizen. I can speak with sympathetic understanding because I was born

†Dr. Crane is a graduate of the literary department of the University of Michigan of 1890 and a graduate of the Medical School in 1894. The University conferred upon him the honorary degree of Master of Arts in 1932. See editorial, *JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY*, 31:718.) Dr. Crane has practiced medicine in Kalamazoo since 1894, specializing as a diagnostician since 1915. He is one of the pioneers in Roentgenology. His contributions to the science have been internationally recognized. He was awarded the gold medal of the Radiological Society of North America, "in recognition of achievement in science of radiology." He has been a member of the London Roentgen Ray Society since 1899 as well as member (president 1916)

---

of the American Roentgen Ray Society since its organization. He delivered the Caldwell Lecture of the American Roentgen Ray Society in 1932. While fully appreciating all of Dr. Crane's other achievements, we here recognize him as a master of a clear English prose style which only comes to one with scientific imagination accustomed to drink deeply in the well of English undefiled.



in this same city, reared in the same schools, entered the same profession, and received my M.D. from the same University.

From my earliest recollection there was always a Dr. Andrews in Adrian. It was a Dr. Andrews who, in my childhood, first gave me castor oil and inspired respect for the medical profession. Frank, at this time, was enough older than I so that our paths never happened to cross, for in boyhood twelve years is a wide gap. I say older "at this time" because in later life such age-gaps close without trace.

Dr. Andrews was the son of a physician and the father of another. His paternal grandfather was a minister. I am tempted to say, jokingly, that this heredity never hurt him. But, seriously, there was always something of the preacher in Andrews, although not with a theological outlet, for he grew up in a medical atmosphere. After graduating from the Adrian schools, he entered a drug store as a clerk—a recognized preliminary in those days to the study of medicine. However, young Andrews became so interested in this work that he matriculated in the Pharmacy Department at the University. But next year we find him changed to the Medical Department, which was his manifest destiny. In 1878 he won his M.D. at the early age of twenty. Not being of legal age to practice, he filled in a year with a post-graduate course.

Returning to Adrian with more than the usual preparation, he practiced with his father for about a year. With the youthful desire to strike out for himself, he went to Pentwater, Michigan, long enough to get married, and then settled at Bear Lake, Manistee County. There was the spirit of adventure in this selection of a location. It was a pioneer country in the days of lumber-camps and wild-game. One season he and a few friends hung up forty-two deer for the community. Deer-meat took the place of beef even in the matter of mince pies. The streams and lakes swarmed with fish. Dr. Andrews is still seen at his best with a creel under his left arm and a fly-rod in his right hand, unless it be in the evening in a northern cabin with his stocking feet stretched out to the open fireplace and with his old pipe held aloft, while he narrates the thrilling events of the day on the stream. I use the word, "narrates," advisedly, because a narrative is not necessarily history.

If you would know a man, live with him in the woods, fish with him, hunt with him, play games with him. The code of a sportsman is indeed the code of a gentleman and has held many a man to a high sense of personal honor in daily life. It is sufficient then to say that Dr. Andrews is a clean-cut sportsman.

At Bear Lake he was the only doctor for twenty miles on one side and forty miles on the rest of the circumference. He rode from patient to patient on horseback. Several horses were needed in his stable because not infrequently he rode eighty or more miles a day. He loved horses. His father had had a weakness for the "sport of kings," and had owned a private race-track on the outskirts of Adrian where young Andrews had had a chance to learn horseflesh from thoroughbreds.

Pioneer practice develops a resourcefulness quite unknown to city and hospital practice. On one occasion when a man had his face nearly cut off, Dr. Andrews took a door from its hinges to make the top of an improvised operating table, and, by the light of a kerosene lamp, removed most of the crushed bones of the face and jaws and sewed the face back in place. It was more than a successful operation; the patient lived. Later, Andrews found that he had performed a rare operation such as a famous surgeon would have taken pride to report in literature. In time the patient was equipped with a rubber jaw at the University of Michigan and lived comfortably many years. In fact, it was years later that Dr. Andrews was stopped on the streets of another city by a man who said, "You don't know me?" Andrews answered courteously, "You have the advantage of me." "So you had of me, once," was the reply. "I'm the man with a rubber jaw."

In 1885, forty-seven years ago, Dr. Andrews returned to Adrian, to take the place left vacant by his father's death. His life since is familiar to you all. He would have been a prominent man in any community. In his younger days he served the city as city physician and health officer, and in later life was twice Mayor. He was a charter member of the Lenawee County Medical Society and has always firmly upheld the ethics and honor of the profession which he loved so well. He is a Mason and an Odd Fellow. The Odd Fellows made him their

Grand Master for the State of Michigan, and in 1904 sent him, as a Past Grand Master, to represent the State Order at the national meeting in California.

An incident in his life was the opening of the Cherokee Strip. Preceding the great rush, Dr. Andrews, with some friends, laid out the plans for a new city, to be located on this strip. The spirit of adventure was still strong within him. He longed to take part in the rush but his responsibilities made this impossible. Nevertheless, the present city of Ponca is today the literal materialization of this plan, which was drawn in Andrews' Adrian office.

Dr. Andrews has been a good citizen, to put it simply but adequately. As a husband and father, he has shared the common lot of mankind. He has a daughter, and a son who continues the professional traditions of the family with high and increasing credit, and grandchildren to carry on and perpetuate his line.

I chose the title, "The Education of Frank Andrews," because, like Henry Adams', his education was never finished. It followed an epoch that has not yet reached its zenith, for Dr. Andrews has had the good fortune (shared by my hearers) of living in the most progressive period of the world's history—in medicine no less than in a world of amazing invention and discovery. By the term medicine, we mean the whole range of medicine and surgery with its specialties, its natural history of disease, its diagnostics and therapeutics, its physiologies and pathologies and its allied sciences. All this by common usage is "Medicine." In this sense of the word, Dr. Andrews, during the brief span of less than a lifetime, has seen greater advances in medicine than had been made from the date of his birth back to the time of Hippocrates—a period of over 2,000 years. We realize that to the laity, and even to the physician off his guard, this seems an incredible statement—rhetorical, hyperbolic, extravagant. But as we trace chronologically the events of Dr. Andrews' life, we see that it is true with a wide margin to insure veracity.

Most of this mighty advance was made in the years following his graduation. Like other physicians of the same period, he had vastly more to master during active years of practice than in the years of undergraduate study. How this was done by Dr. Andrews and his generation is a true source of pro-

fessional pride. It was an extraordinary effort at continued education, without a parallel in any other profession. Lawyers, clergymen, engineers, chemists, teachers—no other body of professional men or women can show anything comparable to this sustained educational purpose which ever renews and maintains the springs of medical intelligence and learning.

This ceaseless education has become a necessary condition of medical practice and was, and still is, being accomplished by innumerable medical societies, county, state and national; by countless associations of specialists; by hospital staff meetings, post-graduate schools and numberless clinics; and by the rise of a vast medical literature, the extent of which can only be comprehended by contemplating volume after volume of the *Index Medicus*. So overwhelming is the number of current medical periodicals in every language that they entirely surround the great reading room of the New York Academy of Medicine, tier on tier. No wonder that graduates take refuge in specialties and that the specialist has been defined as "a man who knows more and more about less and less," while the general practitioner has acquired the inferiority complex of one who knows less and less about more and more.

But this same general practitioner has had to filter out the really practical facts and methods to be applied in the treatment of the sick, not only in well-appointed offices and hospitals, but in the home, on the farm, in the factory, by night and by day, always in the first line of defense. It is he who is the ultimate figure to whom all medical education is addressed. To keep informed, to discriminate, to utilize experience, to form sound judgments, to justify the confidence of those who trust him—this is no small undertaking. And in this light we see Dr. Andrews clearly focussed as typical of the physicians who form the backbone of our profession, the trusted advisors of their fellowmen, the only real masters of medicine. The general of an army employs engineers, technicians of all kinds, ballistic experts to direct the artillery, miners, aviators, chemists, artisans without number. And yet it is he, like the attending physician, who must win the battle. Is this fanciful? Perhaps it is, but let it stand, for it conveys an essential truth.

No physician need apologize for practic-



ing in a small community. Some of the ablest practitioners I have ever met have been from small towns where they located after graduation, married, formed friendships, and—stayed. Some thus had wisdom thrust upon them because the best of life is to be found in the small city—almost only in the small city—and there also are to be found the best of those human relationships which can develop between patient and doctor. Furthermore, from town and countryside have come an overbalancing share of both medical and surgical advances, a few of which are interesting to recall in defense of practice in the small community.

Michigan is more famous in medical history because of the work of an obscure surgeon on Mackinac Island than for all the splendid work done at her great University; for it was here in a small military settlement that William Beaumont discovered the more important facts concerning the physiology and chemistry of gastric digestion. Perhaps this was due in part to a quality of romance in this story of Beaumont and Alexis St. Martin. However this may be, it was one of the first pieces of American research to receive early recognition in Europe, where soon Kussmaul developed the stomach tube and its clinical uses. But Adolf Kussmaul himself is another illustration in point, because he was the son of a country doctor and himself began practice among the country mountaineers and lowland farmers about the little town of Kanern, although he became later one of the greatest of European clinicians. That this was in Austria instead of America merely shows the universality of our thesis.

It was Ephraim McDowell, in the little village of Bowling Green, Kentucky, who performed the first ovariectomy, while a mob gathered about the house to lynch him if the woman died. It was J. Marion Simms, in the backwoods of Alabama, who worked out a great surgical principle in accomplishing for the first time the cure of vesicovaginal fistula, and became the leading American surgeon of his day. At the time of the assassination of President Garfield, he was on a tour of European clinics, operating before large gatherings of surgeons and received more honors and decorations from foreign governments than any other surgeon before or since, excepting, perhaps, William J. Mayo.

Dr. Crawford Williamson Long, in the small remote southern village of Jefferson, Georgia, used for the first time ether to produce anesthesia during a surgical operation, although this honor was for years given to Dr. William T. G. Morton, of New York. Robert Koch, while practicing medicine in the country town of Wallstein, in Germany, discovered and developed the bacteriological methods that have become foundation stones of modern medicine. James MacKenzie, while practicing medicine in a rural community in Scotland, studied the hearts of the country folks with a polygraph of his own devising. Out of this study arose a new cardiology and a new understanding of diseases of the heart. He became, later, the leading clinician in London, and Sir James, only at the height of his career, to return again to practice among his old friends about Burnly.

Without exhausting the list, and so also not to exhaust my hearers, I will mention merely one other example, the best known and most astonishing of all, the Mayo brothers of Rochester, Minnesota. That these two small-town physicians and surgeons should have made a little village of about 8,000 on the open prairie, the greatest surgical center of any age; and, by the gravitational influence of genius, have gathered about it a great planetary system in the medical heavens, is a phenomenon for which many explanations have been offered. We have none to add, but would reaffirm simply that no doctor need apologize for practicing in the small town.

To but few, in any environment, comes the achievement, or the accident, of a great discovery. Our chief glory in medical practice is more humble but in a way far more important. It is the practical applications of discovery and improved methods, to the care of the sick, the cure of disease, and the relief of suffering.

This adaptation of medical advance to practical needs was, and still is, an Herculean task. During Andrews' boyhood, new facts were accumulating and medical discovery was gathering headway. To the practical men of that day, who were no exception to the practical of any day, most of these facts seemed infinitely remote from possible utility. But always there is a gestation period for a pregnant fact. The year of Andrews' birth was the year that heard also the birthcries of modern pathology, for this



was the year when Virchow's greatest brain child "Cellular Pathology" dropped from the press. It was the result of a new conception of disease. That it came to a comparatively early maturity notwithstanding the dead weight of professional conservatism of those days, was due to the dynamic personality of its progenitor. In a life of almost superhuman activity and versatility, Virchow dominated the medical thought of his time, and his career overlaps the period of Andrews' student life and early practice. Medical men were made conscious of the vast biological unknown that surrounded them. While everywhere research grew in importance, yet actual changes in college teaching or in practice came slowly; in America, so slowly that it hurts our professional pride to recount it.

In 1882, five years after Andrews' graduation, Koch announced the discovery of the tubercle bacillus and proved it to be the cause of tuberculosis. A more perfect and conclusive piece of research has never been published. Six years before this, Koch had given to the world the bacteriological methods that already had led to the discovery of a number of pathogenic bacteria. But this was after Andrews' graduation. It was not until the overwhelming importance of the discovery of the tubercle bacillus stirred medical consciousness that schools in America took notice. To quote from Landis in the *Annals of Medical History* on "The Reception of Koch's Discovery in the United States"; after commenting on the fact that this discovery did not reach the American public for two months after Koch read his paper and that the non-medical press was the first to set forth its importance, he says:

"Looking back at this period we find that American medicine was illy equipped to deal with such problems. But few of the medical schools of that time made anything more than a pretense of teaching pathology; and bacteriology, then in its infancy, was hardly thought of. Such facilities as were offered were totally inadequate. The pathological department of one of the great schools of that day was described as a single, gloomy, and ill-smelling room with a meager equipment. With few exceptions, those interested in the investigative side of medicine at that period practiced medicine as a vocation and pursued their scientific studies as an avocation. Dr. Trudeau's experience was probably typical of many others at this time. After spending days of discouragement in which he succeeded only in covering himself with the staining reagents and vainly looking for the stained organism through the unfamiliar microscope, he was about to give up in despair; an inauspicious beginning for one who, under great difficulties, was later to be the first in this

country to isolate the bacillus in pure culture from the sputum."

It was my good fortune in 1892, ten years after Koch's epochal discovery, to take the first laboratory course in bacteriology under Vaughan and Novy, offered at the University of Michigan. Dr. Andrews had then been in practice for fourteen years. Medical research, which was learning to walk about the same time that Andrews did, has since flown on the wings of an airplane.

At the time of Andrews' graduation from the University there was no bacteriology. Germs were not yet accepted as the causes of any diseases except anthrax in cattle. Infection, the nature of pus, the meaning of inflammation, and the reason of fever were imperfectly understood. There was no anti-toxin, no serums, no vaccines, except for smallpox. There was, of course, no bacteriological diagnosis, no cultures, no examination for the malarial parasite, no Widal test for typhoid fever, no Wassermann test for syphilis, no sputum test for tuberculosis, no cultures for diphtheria, no animal inoculations. There were, in fact, no laboratories remotely worthy of the name.

It is true that Fracastorius in the declining days of the Roman Empire stated clearly his conception of minute living particles as the causes of disease and contagion—an amazing insight in the absence of microscopes, stains, cultures or inoculations. And then came a lapse of a thousand years. Leeuwenhoek, some two centuries before Dr. Andrews was born, first actually saw and described bacteria by means of magnifying lenses of his own grinding. But it was not until 1864, when Andrews was eleven years old, that Louis Pasteur perceived the nature of fermentation, proved the cause of anthrax, and set at rest forever the theory of spontaneous generation.

The advance in science and research is never a mass movement. It is the work of individuals. The level of our civilization is not a level of general culture, it is a level resting upon peak achievements of supermen. Fracastorius, Leeuwenhoek, Pasteur, Koch, Ehrlich, Vaughan, Novy, von Behring—these are some of the supermen of bacteriology.

Because of their work, sanitary science has superseded the age-slow processes of race immunity. Intelligence has outrun evolution by unknown geologic periods. It is

true that the control of the plagues of the middle ages, and of smallpox, was the work of preceding centuries, and that influenza remains to be conquered, but it is in Andrews' time that the menace of infective diseases as a class has been largely removed. Diphtheria and scarlet fever no longer claim their victims as they did in Andrews' early practice. The spirochete of syphilis, that great conservator of morality, and the cause of untold physical degeneration, had been brought to the light of the oil immersion lens and its powers curtailed by a therapeutic discovery which stands as a model of systematic research. The revelation of the rôle of insects as the carriers of pestilence and the applied knowledge of malaria, typhoid, yellow fever and cholera have opened the tropics to the white race. The building of the Panama Canal is a concrete example of what is more a medical than an engineering triumph.

It was, likewise, the rise of bacteriology that led to antiseptic surgery, and here there was no delay in making a practical application. But this required genius of the highest order, the genius of Joseph Lister. Our medical forefathers spoke of laudable pus. Suppuration was supposed to be a necessary part of the healing process, notwithstanding Hippocrates' statement of ideal healing by first intention. Hospital gangrene, phlegmon, and erysipelas seemed ineradicable. A compound fracture was commonly a cause of death from sepsis. Dr. Andrews was already seven years old when Lister published his first announcement of antiseptic surgery. He had applied carbolic acid solutions in cleansing the wounds of compound fractures, following with carbolic acid dressings. Marvelously, wounds healed without pus. He extended this method to all surgical operations, and modern surgery was born. But so slowly was Lister's work appreciated, and so great the unbelievable indifference and even antagonism of the profession, that it was weary years before its general adoption. In America antiseptic surgery was not generally practiced until well after Dr. Andrews' graduation. The comprehension of the surgical principles involved led rapidly then to aseptic instead of antiseptic methods. It was thus given to Dr. Andrews to witness the adoption of a revolutionary surgical technic, the changing status of the trained nurse and the construction of the modern hospital.

In the earlier days of Andrews' practice, hospitals were still places devoted solely to the treatment of the sick. He has witnessed an extraordinary enlargement of function with the rise of the clinical laboratory and the roentgen-ray until now hospitals have become community centers of diagnosis, with equipments which the single physician can rarely equal. He has thus seen the common resources of the profession expanded beyond the imagination of his medical forefathers. He has seen, also, rising dangers and evils in hospital practice which we cannot adequately here discuss. But, fortunately for the whole profession, he has seen a great national society, The American College of Surgeons, reach out with wisdom and power to grade, elevate, and control in some measure, all the hospitals in the United States—an amazing achievement.

However, both in and out of hospitals, Andrews has seen the art of diagnosis reinforced by a bewildering array of instruments and laboratory methods, so numerous that to list them would be tiresome. Does this mean that diagnosis has become a matter of machinery, instruments, chemistry? On the contrary, never has it been more necessary to evaluate the evidence and to correlate such findings with the symptoms and the history of the patient which now, as ever, remains the fundamental document in every case. Early habits of expert cross-questioning of patients, and the minutiae of the old-time physical examination, has saved many an older practitioner from the pitfalls of premature laboratory deductions. The body itself is the most delicate of all diagnostic instruments, albeit the most deceptive. It responds by signs and symptoms to the invasion of disease. By training and experience, by the educated eye, ear, and sense of touch, aided perhaps by natural endowment, the old-time physician detected the cry of an organ or tissue in distress. Then laboratory tests and clinical instruments might correct, confirm, amplify or even introduce new evidence without displacing judgment.

It is at this point that Dr. Andrews is seen to the best advantage unless it be in that quality of character which could give his patient the feeling of security and trust that his case is in the hands of one devoted unswervingly to his good.

Dr. Andrews has seen the development of hypodermic and intravenous medication, the lumbar puncture, the transfusion of blood,



and innumerable therapeutic advances that would and do fill volumes. However, few events which Andrews has witnessed have been of such growing importance in actual practice as the gradual emergence of a new physiology of the glands of internal secretion—the endocrines. Although the influence of the sex glands in determining personal characteristics was known from the earliest times, yet it was not until Claude Bernard, in 1857, the year of Andrews' birth, isolated glycogen and coined the term "internal secretion" that the function of the ductless glands became the subject of a new experimental physiology. Then came Brown-Sequard, Addison, Gull, Sajous, and a host of others, crowding into this most fascinating field.

While the nervous system of lowly organisms was still in the first processes of evolution, different tissues communicated with each other by chemical messengers, the hormones. Later, specialized cell-groups developed with greater powers of a similar nature, until now the evolved animal-body is seen to be a laboratory within which are manufactured powerful substances necessary to life, to normal growth and to the healthy function of every tissue of the organism.

The thymus, the thyroid, the parathyroids, the adrenals and, most powerful of all, that little gland the size of a small hazelnut, securely housed in the cup of the sella turcica at the base of the brain; these all, by a marvelous interplay of secretion, determine the development of the body, and influence the central nervous system together with organic functions to a degree which only rigid experimental proof can make us believe. They determine whether we shall be short or tall, myxedematous idiots, or normal beings. They determine the composition of our bones, our basal metabolism, our temperature, pulse rate, blood pressure. They determine the hair on the head, the shape of the nose, chin, hands and feet, the speed of childbirth, the quantity of urine, sexual potency and, to a large extent, the disposition of the individual. To be sure, this is not all, but it is enough to make us wonder if the endocrine glands are chemical masters of instincts, and just to what extent the brain, heart and other organs are merely responsive instruments. Andrews might also wonder if it would not have perplexed his ministerial grandfather to have reconciled

his teaching of Moral Philosophy and the freedom of the will with this physico-chemical basis of personality.

Medical discovery must seem to Andrews like a relentless schoolmaster who gives out new lessons before he can master the old ones. A new therapy, significant regarding the ultimate control of vital processes, unfolded before him. It was at the same time highly speculative and unanswerably practical. Thyroid extract, adrenalin, pituitrin—it is enough to mention their names for they have taken their places among the indispensable agents in the pharmacopœia. Banting's insulin, an internal secretion, marked the conquest of a metabolic disease, diabetes. A secretion of the stomach-walls, stored in the liver, controls another deficiency disease, pernicious anemia.

That the secret, so long sought, of the etiology and cure of this last disease should have been hidden in a common article of food like liver was spectacular, but not more so than a preceding discovery that in common foods there are substances other than proteids, carbohydrates, and fats, which are absolutely essential to health and often to life. They are, of course, the vitamins. From them, Andrews had to learn a new theory of diet, quite different from that with which he left college. And wise is he who can now distinguish between food and medicine.

The discovery of the x-ray was like a total change of subject without notice. It was perhaps the most meteoric discovery of all time. Andrews was then thirty-six years of age, in the full tide of practice, when, in 1895, Roentgen made his announcement. Nothing so contrary to the universal experience of mankind had ever before or since compelled belief. The most enthusiastic early predictions of its value in diagnosis are still of interest to show that its actual development far transcended the wildest imagination of the period. And who could have dreamed that this intangible radiation, which could neither be seen nor felt, could exert so profound an influence over living matter, and become so powerful an agent in the treatment of disease. If every other medical advance in Andrews' lifetime were blotted out, the roentgen-ray alone would still make it the most memorable period of medical history. Its influence is vastly wider than medicine. It has changed the founda-

tions of physics and chemistry. But time precludes further discussion which would lead us far afield.

It was not the purpose of this sketch to give anything like a comprehensive review of the period of Dr. Andrews' professional career, but only to indicate by milestones the course which he had to travel, and to pause with him now and then to catch in retrospect, a new horizon of medical thought as he may have seen it. I think you will agree that his education was never finished—never can be finished. But he is equipped by long training and a high intelligence to see and understand all that research and discovery can bring, in the future, to the science and art to which he has devoted his life. It will be his privilege to watch with unabated interest the unceasing evolution of medicine in its broadest sense. He has won the admiration, respect and affection of his fellows. We honor ourselves in honoring him, be-

cause he stands as a typical member of our profession—one who has known its hard work, its privations, its uncertain financial rewards, its incessant demands on time, its discouragements; but one, also, who has known the joys of accomplishment, of genuine service to his fellowmen, of the gratitude of patients, and, best of all, of the approval of his own conscience.

We can hope nothing better for future students of medicine than that, like Andrews, their education may but begin with their graduation. Many statesmen, in many countries, are not averse to making them salaried dependents of the State, working in the interests of a health insurance system. When, if ever, that is accomplished, then some future speaker at the honoring ceremonies of some future Andrews may refer with emotion to this present period as the golden age of medical discovery and advancement.

---

## AS SEEN ABROAD\*

---

JULIUS POWERS, M.D.†

SAGINAW, MICHIGAN

We went aboard the Bremen on Friday, October 19, 1934. The first thing we found we were in berths which formerly were first class, but now are tourist. At breakfast we could not find a single Jewish face, showing how completely that race is shunning Germany. The passenger list was small with only 140 in the tourist list.

Dr. Galsterer, who is accompanying me, and I have fallen into the routine very well. We arise at 8 o'clock, eat at 8:30 o'clock, play ping pong or bowl for an hour or so, then get our ship paper to read the day's news. This is printed in German and English. At 12:30 we have lunch and after a promenade on the deck we go to a movie. These are all in German, but the conversation is filled in with English footnotes on the pictures. The music, especially the singing, is marvelous, but the artists do not have the fine trained control of their faces that our Americans show on the screen. At four o'clock in the afternoon there is a concert. Most of them are the heavy classical German works. At 7 P. M., we have our dinner. The food, both in variety and preparation, is marvel-

ous. The service leaves nothing lacking. Imagine my surprise at being served venison. In the evening, first comes the horse race. Almost everyone goes and gambles a little. This is followed by a ball. There is a great scarcity of ladies, so the ball is not very well attended, but when a Bavarian ball was given, everybody seemed to turn out. The musicians and waiters appeared in costume and the music was peppy German ballads. Extreme courtesy and cleanliness are remarkable.

On touring the ship, one can understand why it cost eleven million dollars and why it has a personnel of 965. At the bridge we obtained a vague idea of how science has

\*Realizing the interest of the profession in accounts of experience abroad by members who go for pleasure or post-graduate work, or both, the editor asked Dr. Julius Powers, president of the Council of the Michigan State Medical Society, to detail his experience of the past three months. This excellent description of his observations is the result.

†For professional note see October JOURNAL M. S. M. S., page 571.

made navigation more safe. The steering was all magnetic in normal weather, but hand-steering is resorted to in storms. The windshield wipers on the windows remind one of an auto. The instruments are comparable to a speedometer, the principle controlling this being water pressure on the bow. As we looked, it registered 27 knots per hour. The power plant, 100,000 H. P., is large enough for a city of 35,000. The propeller rates 185 per minute in ordinary weather but must be slowed during heavy swells to prevent pounding. There is a graphic chart of the course showing how the ship deviates a degree or even two at times. On leaving the bridge, the life boats are seen. Each is designed to hold eighty people. These are unsinkable and have a waterproof motor with a supply of gas to cruise 500 miles.

Going then to first class, we see quarters more magnificent than any hotel. The woodwork, paintings, and decorations are beyond description. Woods from all over the world are used in various combinations and inlays. Tapestries of great beauty are in panels on the walls. In the social room we see a beautiful fountain with many colored lights. Six thousand bulbs are used in this room alone. The library is very complete. One can get fiction, travel, history, or religion. As in a hotel, there is a public stenographer; also typewriters for service of travelers. One must not forget the entertainment, shooting gallery, gymnasium, bowling alley, swimming pool, and a special children's play room with typical German toys. Nothing has been spared to add to the comfort of the traveler. There is a winter garden with palms, chrysanthemums and many other plants in profusion. This being a glassed-in portion of the deck, it is heated with electricity. The first class have a regular dining room, not much better than the tourist class, but in addition have a private dining room run as a pay restaurant. There are ample staterooms and suites. The entertainment is about the same as the tourist. Last night only one couple was dancing.

Our tourist section has access to gym, swimming, and bowling at certain hours. We have a social hall with movies, and dancing, also a smoking room and a bar. Not as luxurious as first class, but as big and very satisfactory.

Going down to third class there is a great

difference. The berths are smaller. The kitchen odors are more noticeable. The entertainment is much more limited. There is a marked difference in furnishings. The kitchen and storage facilities are superb, with large bakeries in connection. I could not help but smile to see the laundry run by a gang of Chinese. A special kitchen was present to care for special cooking for orthodox Jews.

An interesting observation was made in regard to nurseries or children's playrooms. The first class was small, but very complete with beautiful toys. These did not show use. The second class was of moderate size with good toys that showed some use. The third class was large with few toys and these were badly battered, emphasizing that the poor man has the kids.

In a special visit to the ship board hospital we found a thirty-bed hospital with one nurse or schwester, and two male attendants. It seems they require one hospital bed for every one hundred on board. A small operating room with instruments for an emergency laparotomy or amputation is furnished. They use ethyl chloride as a general anesthetic for minor operations.

At a point between Portsmouth and the Isle of Wight, we stopped and a couple of tenders came. Mail, baggage and many passengers were unloaded and an equal number came aboard. Those getting off were taken to Southampton. We then proceeded to Bremenhaven, arriving within ten minutes of the time we were told we would arrive. After going through the German customs we got on a train and went to Bremen. Through some letters, we were able to go to the surgical hospital and had a very fine three hours. The most outstanding thing to us was the simplicity of the treatment of fractures and the inexpensive apparatus used. Through other letters, we were given a chance to see a reproduction of a 14th century street that has been rebuilt. This series of houses had rooms furnished in the same original furniture of the time. Other rooms were converted into museums. To me, a wonderful old clock with a series of some twenty bells making a chime which played a tune at twelve and six was very interesting. These bells were made of porcelain, the largest about 16 inches high. These were suspended in a group on wires stretched between two gables.



We had lunch in the world-renowned Rathskeller, with the casks about 15 feet across the head and all carved in marvelous patterns. We then went to the Lutheran cathedral built about the year of 1600. On going into the cellar, one could see the remains of the old Catholic cathedral that had preceded this by some 300 years. At the back of this church is a peculiar cellar called the Bleikeller, where bodies have laid in the open since the 17th century. Due to some unexplained phenomenon, these bodies have gradually become mummified and appear with lead clothing, et cetera. It is rather a gruesome sight. One had his throat cut and another had a cancer of the face.

There is a village near Bremen that is surrounded and flooded with water about one-half of the year and, through inbreeding and lack of food, the people have developed many nutritional disorders. A clever painter started painting this group, and I may say that I never saw so much woe and such marked pathologic conditions put on a canvas by an artist. Rickets and scurvy predominated. The artist died before the collection was complete.

A question I was asked again and again was, "Why does America dislike us"?

We went from Bremen by rail into Berlin. We went to a hotel to which we had been directed. Here we stepped into an elevator just large enough for three and went to the fourth floor and were ushered into a room which was 30x16x14 feet high. I wish I could give you the picture this room made. The furniture was the old mahogany, hand-carved, plush-upholstered. A 12-foot mirror was in one corner with carved figures at the top, and a desk in another corner. There was an enormous wardrobe with a mass of carving, a round table, and over in another corner a solid tile stove 4 by 4 by 12 feet high. In the old firebox we found a square wood-burning stove had been installed. One heating of the tile would last a long time, because it is so massive. The windows had old curtains and drapes that must have seen service many years. The rugs were more modern. On top of this collection of antiques were twin beds of very recent vintage.

At breakfast, imagine our surprise to see a waiter in full dress. Sunday morning we learned of a big celebration at the University place, Unter den Linden. All the men,

whom Von Hindenberg had given the cross of honor, were assembled and we saw a big military review with several bands and the usual trimmings. When the regular army came along, they were in full-field equipment. It was noticeable that they marched in threes instead of fours as we do in the United States of America, and the only place they used the old goose step was the first few steps from a standing start. When the crowd saluted, we did as they did, so as to avoid trouble. In looking over the crowd, we both remarked on how well-dressed they were, certainly rather better than a Michigan crowd.

We have struck a peculiar tax. The government has decreed that 80 pfennig will buy an adequate meal, so if one spends more than this at any one meal, one must pay a tax. Another thing that we noticed is that men go through the crowd with trays of small bottles (about 20 c.c. in size) containing wines or brandy. Cherry brandy seems to be most popular. Butter has had the price raised and set by the government so that it is about 60 cents a pound. The result is that the average meal includes bread but no butter.

We went on a rubber-neck bus today for a sight-seeing trip. This had a glass roof as well as sides, so we could see tops of buildings through the roof. The ballyhoo man told me that he learned his English in America. When I asked him "Where"? he told me in the German camp in Georgia during the war. He remarked that he lost everything but his health during that time.

We are learning what a big part the Hitler salute is in life here. Doctors salute nurses. Employers salute employees. One cannot go a block without seeing it used. We only hope we will recognize when to use it so as not to get "crowned" as some Americans already have.

A trip in a rubber-neck bus to Potsdam was very interesting. We were shown the old barracks where 70,000 soldiers were housed. The famous Sans Souci with its palisades of tropical plants all under glass. The view is quite similar to Versailles. We saw many babies in perambulators. It was interesting to note that these were all painted white instead of black as in the United States. The former palace of the Kaiser is now a museum. Before entering one must slip on felt slippers before cross-

ing the wonderful inlaid wooden floors. Much of the original furniture is in place. The guide was very honest, apparently, in telling us that the pictures in many cases were copies of originals that had hung in those places, but had been removed to Holland by the Kaiser. However, some by Ruben, Bemmet, Peré and others were still in place. The guide mentioned several times that Roosevelt had been in various rooms, and sat in certain chairs. The one room that impressed me most had a dome lined with shells, crystal and silver chandelier, and the walls were covered to a great extent with precious stones in the rough, topaz, agate, carnelian, many types of amber, ore heavy in gold, petrified wood, quartz, and many others. The original tapestries in many rooms were in place. Some of the light blues have faded so that the walls gave the impression of old, old wall paper. One floor was a wonderful combination of rosewood, maple, and mahogany. Some of the chandeliers of delicately made porcelain were immense. The old spinets and old clocks were still in place. One little clock was still running after 400 years.

In Sans Souci, I was especially interested in a room made in honor of Voltaire, a monkey on one side because Voltaire was homely, a squirrel eating sweets because Voltaire loved sweets, and a parrot because Voltaire liked to talk. Evidently Frederick the Great was a great lover of Voltaire.

The old military church at Potsdam was shown also as a sort of museum. The old flags of many wars were still in place, where they had been put in former days. The caskets of Frederick the Great and his son were surrounded with old army flags. Most prominent of all was the new Hitler flag with the swastika. When Hitler addressed the troops about a year ago, a small stand in gold was erected in front of the pulpit, so he did assume the position of a minister of the gospel. This is left in place. It seems that the Kaiser did not approve of long church services, so in front of the pulpit is a beautiful hour glass. I do not know just how long it takes the sand to run through, but I can recall many church services in America where a similar device would have been useful.

We then went to the dog cemetery where Frederick the Great buried his favorite

dogs and where he wanted to be buried. A stone slab with the name of the dog shows each grave.

Next we went to the resting place of the Kaiser's wife, which is an old museum converted into a mausoleum. Many fresh floral pieces were seen here, and here again the new German flag was prominent. In front of one of the buildings was a guard marching back and forth. Instead of a gun, he carried a shovel and had on khaki uniform, so I interpreted that the workers' army must at times do certain types of military service.

Yesterday we went to the Zoological Gardens. Here we found one of the finest in the world. The collection of snakes is, I believe, the most complete anywhere in the world. The aquarium has fresh water life on one side and seawater life on the other. Two interesting examples of cross-breeding were seen: A bastard from crossing a lion and a tiger, and a bastard from a wolf and a dog. Speaking of cross-breeding, a biologist here is cross-breeding maggots to improve the strain to be used in treatment of osteomyelitis. It being a poor season to see the zoo, we made a rather hurried visit. The most spectacular arrangement for confinement was that of the seals. The setting was that of a waterfont with small cliffs for the seals to climb up.

Arriving in Berlin at night, we were struck by the extensive electrical displays. Certainly the Germans are ingenious at developing methods of lighting. The little bed lamps are unusually clever.

The University of Berlin has a department for supervising work for foreign students. They make out a program according to the length of your stay from one day to a year, and are very courteous about it. There are no organized courses in medicine, except for exchange students who go for a year or more. We are now starting our real work here and will write later about it. So many uniforms are seen on the streets, that one becomes very confused. This surely is a country of uniforms. The black uniforms are the personal guard of Hitler. A brown uniform is somewhat like our khaki and is the storm troop. A tan uniform is worn by the labor troop. These are similar to our CCC boys and ordinarily would be on the dole. The work and the uniform seem to do a lot toward keeping up their morale. The blue-green uniforms are the



regular army. One of these on guard was so much like a statue that I had to wait for him to wink to be sure he was alive.

There is some sort of celebration every week or two. Everyone salutes high and low and says the word, *heil*. The general nourishment seems to be very good, but one sees many boys of fifteen or sixteen years who have not grown very tall. In fact, one feels that they were stunted in some way.

The cost of lodging is very moderate, but the cost of food in restaurants is higher than in the United States. Beer averages one-half mark for an eight ounce glass or about 20 cents. Wines cost about the same as in the United States. In one restaurant butter cost us 30 pfennig or 12 cents.

The transportation system is very fine. On the elevated, each depot has a big map and tells where you are. The cost is about the same as in the United States. In transporting a trunk one must buy an extra ticket for the trunk to ride on to any of the stations in the city, a matter of 5 to 10 cents.

Politics are interesting, but I will wait until I am in Vienna to write my impressions.

We have met only one doctor who speaks English fluently. This noon we lunched in the same room with Dr. Hjalmar Schacht, and a German doctor with us remarked on the wonderful nervous system this man had. Nothing ever seems to bother him or raise his blood pressure. When he closes his desk at night nothing in the shape of worry seems to follow him.

In making inquiry about poverty here, one learns that there is plenty, but on the streets one does not see it. The poor people are very proud and keep one good dress or suit to appear in public. They are always clean and their shoes are shined, but they live in one or two rooms and barely have enough to exist on. Begging is absolutely forbidden. The newspapers are all sold by war veterans or old women. I saw an old man going along the street picking up coal that had dropped from passing wagons.

The housing problem is interesting. We noticed long rows of apartment houses fairly new. These are built by corporations. Many plans have been worked out. Here would be one. A man buys a share in the corporation and after completion he moves into a flat. He pays rent over a period of years and then owns his flat. The

government is encouraging these plans by making them tax-free for a fairly long period. A lecturer on America, here last week, mentioned the large number of home owners in the United States. This was very surprising to the Germans.

I had a talk with the Chief of the Krankenkasse today, and he says that since the present government took charge there has been a complete reorganization of the sick benefit plan, so that now the doctors are very much better off and are very contented. This change has been in effect only in the last year. He says many doctors now make very good incomes and are satisfied. He stated that 46 per cent of the doctors in Berlin today are of Jewish descent in spite of the fact that we, in America, thought all Jews were put out of business. At present the lay people in the Insurance Health Program have been cut, and now the control is really with the doctors. Formerly the head man in Berlin made about 100,000 marks a year, and now about 7,000. He further said that only one case of primary lues was found in the last four weeks.

One sees many cases like our brief cases. I was not sure what they were but find them used for everything. A big, fat woman pulled a sandwich out of one at a show and munched away on it. In the middle of a show, we have a twenty minute interval and the entire audience goes out and has beer. From the appearance of cafes and eating places, there is no poverty in Berlin. Surely they spend plenty for drinks, and drinks are high. A schuper of beer costs from 15 to 20 cents.

We were invited to see the state horse barns about fifty miles from Berlin. Here they specialized in breeding studs and send the studs out through the state. The type of animal is one well-suited for military purposes.

We rode in a German-made Ford. It is a 4-cylinder car and is very low and small. There is no running board. It travels along very well, but is rather rough riding.

In summing up the military situation, my impression is that never was Germany more military-minded than she is today. Uniforms and drills are seen everywhere.

As to Hitler, I hesitate to say much, but must admit that everyone says that Germany is more prosperous and much more safe to live in than it was before his regime. The



future was brought home to me best by a lady, who stated, "Hitler has done wonders for Germany, but some of us are skeptical as to the future." "We wonder whether he has passed his highwater mark." One feels that many people are not fully expressing themselves. Mail of Americans to America is notably unsatisfactory. Much of it is held up in Germany and the German officials always blame America for this. They do not admit censoring mail. The Jews have taken an awful sock on the jaw. The Kaiser said he could not have a pauper nobility, so encouraged marriage with wealthy Jews. These now are suffering more than the foreign Jew. Even after many have been put out of business, 46 per cent of the doctors in Berlin, as stated, are Jews. Before Hitler, 65 per cent of the city officers of Cologne were Jews. These have all been replaced by Aryans.

The care of venereal disease is very severe. Cases must be reported and are hospitalized until non-contagious. A large Frauen Clinic reported only two gonococcus infections in three months. The head of the health department told me that only one case of primary lues was reported last month, and he feels lues is rapidly becoming extinct here in Berlin. There is definite propaganda for more and larger families, and, as a result, illegitimate children have been reduced 52 per cent.

There is in process of organization a system of post-graduate medicine that will appeal to American doctors. The American Institute of Berlin University is sponsoring this at present. Courses are to be given in English. I attended some of the eight of the larger Clinics in Surgery and Gynecology. I was received and shown more than ordinary courtesy in most of these. I saw some very good surgery and some rather inferior. In at least four places they tried to impress me with the speed in doing operations. When I saw a day's list boarded at eighteen major operations to be done by one man, I felt that it was more mass production than anything like we do. One method used to speed up the work was to close the peritoneum, muscle, fascia, and skin wall with through-and-through interrupted sutures.

We went from Berlin to Nurnberg and had a peculiar experience. We got on trains according to directions of the uni-

formed men. It seems there are two routes that may be taken, and we were directed to take the longer route, so when we were almost to our destination, some officials came and demanded two and one-half marks more because we had only paid for the short way and had come the long way. So we had an hour's extra ride for two and one-half marks. Nurnberg we found populated by an entirely different type of people. The men are husky and well nourished. There are plenty of women, who do not hurt one's eyes to look at. They are much better looking and more pleasant than those in Berlin. The old castle and city walls with the moat are familiar to all. Of all the things we saw, the instruments of torture that they have collected in the old castle were most interesting to me. The pincher device to be applied to the fingers of musicians who play badly might well be adopted in America, and applied to some of our jazz bands. We found that our money did not go very far in Nurnberg. Even though it is the home of toys, we found toys very costly. On the contrary, jewelry has been marked down and is very reasonable.

We then went to Munich and here I felt the cold more than any place I have ever been. The store windows were more like our American windows. There is a tendency to overcrowd the displays. Here the men wear broad brimmed hats with usually a cockade of squirrel tail at the back. This is especially true of the highlanders when they come to town. Here also, there is no external evidence of poverty. All are well-clothed. The show windows are full of "nifty" sport clothes for skiing. On talking to one of the ladies about how much more friendly the girls were than those in Berlin, she said, "We think the Berlin girls are schnauzy (stuck-up) and Berlin girls say we are dumb heads." Powder and paint are seldom seen in Munich. With the marvelous museum and art galleries, one misses a great deal in passing Munich by. At one o'clock on the cathedral clock, there is a beautiful chime that plays a German song and then iron men on horseback with lances appear and go in front until one knocks the other over with the lance. This is followed by a similar group of dancers. It is much on the principle of the cuckoo clock.

We had a beautiful clear day going from Munich to Vienna. The season is much

warmer than common, so there was no snow except on tops of mountains where it is always found. Vienna is in a big saucer surrounded by hills. Our first impression of people was that they are not nearly as well-dressed as in Germany, and they give the idea of being completely discouraged, licked, and depressed. Some 20 million people were taken away from Austria after the war, and many blame Woodrow Wilson for this. They are trying small manufacturing, but the cost of raw material makes competition so severe that they are not doing well. They hoped to save themselves by selling wine to the United States, but Italy beat them by selling a better wine cheaper. Then they hoped foreign students would help. Students from the United States are 75 per cent below normal. Students from Poland and Czechoslovakia are going to Paris because educational standards are much lower than in Vienna. Formerly this was a big

item. The general run of Viennese do not want to join Germany under Hitler, because they hate Hitler for deserting Austria where he was born, and going to Germany. Also they are not Nazi in their leanings. They do not want to join Italy because of racial and language differences, although Italy is really the only Santa Claus in sight. The law prevents money being sent out of the country. This causes some "bootlegging" of money and foreign checks. I was surprised to learn that Dollfuss was not popular with the common people.

We found an interesting method of burying royalty. The body is placed in a casket in one church, the heart in a casket in another church and the intestines in a third.

The left hand driving in Vienna is disconcerting to one who drives as we do. Also, it makes crossing the street a hazard for us. There are not so many bicycles here as there are in Berlin.

(To be continued)

## TEMPORAL LOBE ABSCESS OF OTITIC ORIGIN

OLIVER B. MCGILLICUDDY, M.D.†

LANSING, MICHIGAN

"Almost half of the abscesses located within the substance of the brain follow otitic infections." This estimate taken from the report in the April *Archives of Otolaryngology* by Courville and Nielson is an average of seventy-four cases of abscess of the brain found in doing 10,000 autopsies. Two-thirds of these otitic abscesses were in the temporal lobe.

They state that "cerebral abscesses consequent to otitis media and mastoiditis are the result of extension of infection into the intracranial space by one of two types of paths:

(1) by way of contiguous structures, the infection extending through the tegmen tympani into the temporal lobe, and (2) by way of the venous system, through retrograde extension of the infection into the inferior cerebral or the inferior anastomotic veins to more distant points."

The following cases are representative of the first type of invasion.

The first patient, Leota C., aged ten, was admitted to Sparrow Hospital, Lansing, Michigan, on February 13, 1934. She complained of a "terrible" pain in the right side of her forehead.

Four weeks before admission she became ill with what her family physician described as a hemolytic streptococcus pharyngitis. An acute otitis media developed on the right and a paracentesis was per-

formed. The ear drained profusely for two weeks without discomfort and then gradually ceased draining about ten days before admission. Three days before admission she became extremely irritable and began to cry, and scream, with pain in the right frontal region. There was marked nausea and frequent vomiting which did not become projectile. Two days before admission a fecal impaction was discovered by her attending physician.

On admission her temperature was 98.6, pulse 70, and respirations 24. She appeared acutely and severely ill with a peculiar apprehensive, dull stare. She moaned constantly, occasionally breaking out with a wild scream and much of the time appearing quite irrational. She continued, however, to constantly hold the right temporal region and complain of the "terrible" headache. Her most comfortable position seemed to be on the right side with her knees flexed and drawn up under her chin.

On examination the left membrana tympana was normal. The right was intact but dull red and thickened with all landmarks obscured. There was no bulging of the drum and no drooping or edema of the posterior superior canal wall. The right mastoid

†Dr. McGillicuddy is a graduate of University of Michigan, M.D., 1925. He served a rotating internship at Harper Hospital, and was resident and instructor, Department of Otology, University of Michigan Hospital, 1926-1930. He is a member of the attending staff in Otolaryngology, St. Lawrence and Edward W. Sparrow Hospitals, Lansing, Michigan.



was tender over the antrum and tip and there was tenderness on percussion over the right temporal region.

The eyes showed no palsies or nystagmus. The pupils reacted normally and the fundus examination by Dr. Loree showed only a slight neuroretinitis on the two sides.

Except for the neurological findings the rest of the examination was negative. Neurologically there was a marked clouding of the sensorium, a suggestive Babinski on the left and sluggish biceps, triceps and knee jerks. The right arm presented a definite adiadokokinesis, but there was no difficulty in recognizing objects placed in either hand. The Kernig and Romberg tests were normal and there was no ataxia on walking.

The urine examination was negative. The hemoglobin was 75 per cent, red blood cells 4.5 million and leukocytes 17,900 with 93 per cent polymorphonuclears. The following day the leukocyte count was 28,000. Spinal fluid was removed drop by drop and was found to be under greatly increased pressure. It was clear and showed no bacteria. There were 300 cells per cubic mm. most of them lymphocytes. Albumin and globulin were both increased. Culture was negative and the gold curve 122333211.

X-ray examination of the mastoids revealed haziness and considerable cellular destruction on the right side. There was no extensive pneumatization of the petrous bone or evidence of petrositis. Because the symptoms were so extreme, and the signs so suggestive a tentative diagnosis of temporal lobe abscess, right, was made previous to the mastoid operation.

At operation only a small amount of bloody serum appeared following myringotomy. The mastoid cortex was extremely thick and covered an almost completely destroyed cavity. The few cell walls that remained were necrotic but there was no free pus present. The sigmoid sinus was covered with a few pale granulations but was obviously patent. Infected necrotic cells at the roof were removed exposing thickened, indurated dura over the temporal lobe, which seemed under greatly increased pressure. In removing the bony angle of Troutman's triangle, in order to effect a large decompression of the temporal lobe, the sigmoid sinus wall was torn and it had to be obliterated. The indurated, thickened nonpulsating area of dura proved to be about 2 cm. in diameter. The inner plate was removed to surround it with 0.25 cm. of healthy dura.

It seemed perfectly obvious that the pathological change in the mastoid could not be responsible for the intense headache, the nausea and vomiting, the leukocytosis or the spinal fluid findings. Accordingly the temporal dural exposure was ringed with the coagulating current in order to produce adhesions. The mastoid cavity was packed wide open.

For the next three days her temperature remained slightly subnormal and her pulse around 60. She complained bitterly of severe headache and pain in her right eye. There was constant nausea and occasional regurgitant vomiting. During this period she was irrational much of the time. Visual fields were attempted but gave little information because of the lack of cooperation.

Four days after the first stage operation the packing was removed and the cavity carefully cleansed. Tincture of iodine was painted over the dura and a small nick made in the most dependent portion of its herniation. A large spinal puncture needle with obturator was inserted anteriorly and on the second attempt entered an abscess cavity with a firm capsule. About three drams of seroflocculant pus was allowed to escape and long bayonet forceps were inserted along the needle, into the abscess cavity.

Through these forceps a rubber drain was inserted and its outer end split and sutured to the skin margins. The wound around the tube was packed open. She was given 500 c.c. of saline and returned to bed. Culture of the pus from the abscess was reported as hemolytic streptococcus.

On reacting from the anesthetic there was noted a paralysis of the right external rectus muscle and she complained of diplopia. Later severe pain in the occipital region and back gave us cause for considerable worry.

She had a rather uncomplicated convalescence, however, and a month after operation was discharged from the hospital. She returned to school and passed her grade. About two months after operation the 6th nerve palsy had completely disappeared and the wound healed. Pulsation at the upper angle of the wound suggested a temporal lobe hernia into the mastoid cavity.

The second case is that of Norma C., aged seven, who was admitted to Sparrow Hospital, February 6, 1934, seven days previous to the first case. She complained of draining ears with severe pain.

Two weeks before admission she had an acute respiratory infection with spontaneous drainage from both ears and a very high fever. She was assigned to a staff member on admission and x-ray examination of her mastoids was ordered. They were reported as being normal, so expectant treatment was followed. X-ray examination was made again ten days later and again the report showed little destruction. By this time she was becoming very toxic and running a temperature from 97 to 102 with a leukocytosis of 17,000.

I was called in consultation February 16. The patient appeared anemic, pale, septic and very ill, frequently crying with pain in the right mastoid region. Both external auditory canals were filled with seropurulent discharge pulsating from inferior perforations. There was drooping and narrowing of both canals and mastoid tenderness on both sides. The remainder of the examination was negative. Her urine was normal, the hemoglobin 70 per cent, red blood cells 3,950,000, and leukocytes 17,000 with 81 per cent polynuclears.

According to my interpretation of the mastoid films there was definite loss of cellular outline in both mastoids and this with the clinical signs and appearance of toxicity led me to advise immediate bilateral mastoidectomy.

At operation only the deep cells of the mastoids appeared extensively involved. On the left side there was an almond-sized extradural abscess over the dura of the temporal lobe. The dura in this area was covered with a few granulations but did not seem tense or show loss of pulsation. The inner plate was removed until the normal dura surrounded this area. Both sigmoid sinuses were uncovered and found to be normal. Hemolytic streptococcus was cultured from both mastoids.

Two days after operation she began complaining of pain in the left eye, her temperature remained around 101 and she became rather irritable. Six days after operation she complained constantly of pain in her eyes, her temperature became subnormal; the pulse dropped from 94 to 60 and she refused all nourishment. Her white blood count was 12,000 with 81 per cent polynuclears.

Two days later she was complaining constantly of pain in the left eye with marked photophobia. Both fundi showed venous congestion but no definite choking. Spinal fluid was withdrawn very slowly and found to be under increased pressure. It was clear with 150 cells, mostly lymphocytes and with slight increase in albumin and globulin. There were no bacteria.

The following day she was semi-conscious, yawning frequently and screaming in her sleep and inclined to lie on her left side with her knees drawn up. Her temperature was 98, pulse 56. She was examined by a neurologist, Dr. C. Bradford, who felt that there must be an intracranial collection of pus but could not localize it as there were no definite neurological findings. She recognized objects and named them properly but would not cooperate for visual fields.

The next day she was in a coma with a temperature of 97, pulse 50 and respirations 16 per minute. Fluids were given subcutaneously and 250 c.c. of blood given by vein. The following day her temperature suddenly shot to 104 and pulse to 120 and she regained consciousness. We were afraid the abscess had ruptured into a ventricle or onto the surface of the brain, relieving the pressure. Fundus examination revealed a choking of three diopters on the left and one on the right. Slight puffiness of the lids and slight proptosis of the left eye appeared.

On March 3, her temperature was 99.4, pulse 70 and respirations 24. She was somewhat more active and quite rational but complained of extreme pain in the left eye. Five hundred c.c. of glucose and saline was given subcutaneously. We had been at a loss to explain the presence of an intracranial abscess without anomia or other localizing signs. The left was the logical side because of the extradural abscess and the more severe pain in the left eye, but there was no evidence of a naming aphasia that was to be expected with a left temporosphenoidal abscess. This situation was being explained to her family when they exclaimed that: "she was left-handed when a baby and was taught to use the right hand." This factor seemed to account for the lack of localizing signs, as undoubtedly her silent area was on the left rather than the right side.

The left mastoid cavity was reopened and showed a complete lack of granulation. The bony walls were as shiny and bare as at the end of the mastoidectomy, 12 days before. The temporal lobe dural exposure had permitted considerable herniation and the dura was nonpulsile, hard and thick. The cavity was very carefully cleansed by irrigation and swabbing with peroxide and then alcohol. The tense dura was painted with tincture of iodine and a 2 mm. incision made through it. A large spinal puncture needle with obturator was then inserted and at a distance of less than 0.5 cm. passed through a very tough capsule and into a large abscess cavity. Seropurulent discharge with clumps of pus poured out of the needle when the obturator was removed. Again bayonet forceps were inserted along the needle into the cavity, round rubber tubing inserted, the outer end split and sutured to the skin edges. The mastoid cavity was packed wide open with iodoform gauze.

Shortly after the operation she recognized her parents for the first time in six days but she did not remember any past events in the hospital. The drainage tube was left in place until forced out a week after operation. She remained extremely irritable and had to be kept under sedatives constantly and shortly began to complain of severe pain in the left eye again with marked photophobia. Two weeks after the drainage of the abscess, continuous pain and photophobia with a rising white blood count and a slowing of the pulse rate suggested another abscess in the temporal lobe.

As an emergency measure on March 15, the temporal lobe was probed anterior to the first abscess and another abscess cavity with a thick wall was entered and a large amount of seroflocculent pus drained out. Again a round rubber drain was in-

serted and sutured to the skin edges. This tube was pushed out in about five days. Following this, temperature, pulse, respiration and blood count became normal but she became very noisy and extremely irritable.

As she constantly cried to go home, in desperation, we finally discharged her from the hospital.

After about three days of home discipline she quieted down and progressed to a satisfactory recovery with no signs or symptoms of impaired cerebral function. At present the mastoid cavity is open with slight daily drainage and no sign of granulation, so plastic procedures will be necessary later. She returned to school and passed her grade but her mother states that her entire personality has changed. Where formerly she was very quiet and retiring, she is now alert, boisterous and at times very facetious.

I have discussed these two cases with several brain surgeons and they all have roundly condemned me for my method of attack. They quote the surgical axiom that "the brain should not be entered through an infected cavity." Pointing out that if your diagnosis is wrong, your patient will almost certainly develop a meningitis or brain abscess, or both. They recommend that once the diagnosis of a temporal lobe abscess is made it should be searched for and drained through a decompression exposure that is removed from the infected mastoid wound.

If the dura is found necrotic and adherent with a fistula or evidence of a stalk, they state that the probabilities of a chronic encapsulated abscess are great and puncture should be made along this tract which would be walled-off both from the cerebral tissue and the meninges. The object here is to establish and maintain drainage with the least danger of breaking down protective adhesions. Unfortunately the cases with a stalk are in the minority.

For the majority of cases with no visible evidence of dural involvement, textbooks and brain surgeons alike advise a new exposure. These exposures may be one of three types. The temporal decompression route of Sharpe has much to recommend it in cases where localization is doubtful. The incision begins above the posterior end of the zygoma and extends vertically for 3 inches. The bone is removed over a 3 by 2½ inch area and the dura opened vertically for 2½ inches. After repair the temporal muscle gives support as in temporal decompression for dangerous intracranial pressure. Drainage of the abscess cavity is usually maintained by rubber tube or Mosher wire basket.

The second type is that used by Eagleton.



It is an osteoplastic flap which has for its object a large exposure low enough to allow complete examination of the pyramid bone for intradural collections of pus, a proceeding imperfectly accomplished by other methods; and permitting an aseptic closure if no abscess is located. Its disadvantages are the accompanying shock, the length of time required and the need for higher technical skill in brain surgery. In case an abscess is located the resulting infection of the flap with more or less necrosis of the bony portion is probable.

And then there is the method of King based on observations of brain injuries in the World War. His technic involves excision of all the brain tissue between the cortex and abscess cavity and incision of the dura to favor eversion of the cavity by the formation of a hernia. He combats the infection by the use of Dakin's solution. In the hands of its originator this procedure has been very successful and he has reported four consecutive recoveries following this type of approach. Most other temporal-lobe abscess statistics emphasize the very high percentage of mortality, varying from 50 to 75 per cent, and they would doubtless be much higher if all the unsuccessful cases were reported.

The brain surgeons condemn any but an extensive shock, provoking temporal exposure, yet admit that their results are very discouraging. Contrast that with the report in the May, 1933, *Archives of Otolaryngology* by Faunce and Shambaugh. They discussed six consecutive cases of otitic abscess of the brain on the service of Dr. D. Harold Walker at the Massachusetts Eye and Ear Infirmary. Five of these patients recovered following surgical drainage through the mastoid cavity by the method used in the cases reported here. They failed to locate the abscess in one case and the patient died four days after exploration. Autopsy revealed two abscesses, one in the right temporal lobe superiorly, nearly in the parietal lobe, and the other posteriorly nearly in the occipital lobe. The most interesting observation was the lack of infection along the exploration tracts and the absence of any meningitis other than the local change of the exposed dura. Courville and Nielson, however, have reported a case of cerebral abscess due to probing. "Along the needle track to the ventricle were found

granulation tissue and pus formation, infection having been carried into the brain by the exploratory puncture."

There is another surgical axiom, or at least it may be considered a fairly constant rule, that otitic infections that invade the intracranial structures through preformed channels, such as the internal auditory canal or the labyrinth, cause a diffuse meningitis; while infections invading it by other channels are more apt to produce an abscess. The logic of this is quite clear. The virulent infection which invades the intracranial structures through a preformed pathway strikes them entirely unprepared and becomes disseminated before their defenses have been marshalled. The infection that invades by the necrosis of bone and accompanying thrombosis of vessels has lost much of its virulence on reaching the dura and finds it well prepared to resist further advance; so well walled off in fact that an extradural abscess usually results. Occasionally the thrombosis or direct extension of the infection progresses along the pial veins and continues to their ultimate ramification in the white substance of the brain. Here due to stasis an abscess develops with a capsule of glial tissue and lymphocytes that have been transformed into connective tissue.

It is certainly true that the brain has the ability to wall off, divide and absorb small abscesses. It also must be true that the temporal lobe in the region of an extradural abscess or along the path of a progressively thrombosing vein must develop considerable immunity to that particular infection. The defenses must be greatly augmented by a large dural exposure, especially if the coagulating current is used to produce adhesions around the exposed dura. So by the time a search is made for a temporal lobe abscess there is no stalk present leading from the abscess to the exposed dura; but there must be an intervening section of cortical tissue that has a high degree of immunity to the mastoid infection. And certainly having located the abscess it is safer to drain it through this area than through temporal cortex that is entirely unprepared.

If there is grave doubt as to the diagnosis then there is no doubt that a temporal decompression is the safest means of making a search of the temporal lobe. But if in the operator's mind there is little doubt of the



presence of an abscess, then the two-stage method of drainage through the mastoid cavity appeals to me as offering a better chance of success in the hands of the otologist, who is usually the one called on to care for these cases.

## Bibliography

1. Courville, C. B., and Nielsen, J. M.: Arch. Otol., 19:451-501, 1934.
2. Sharpe, William: Laryngoscope, (March) 1914.
3. Eagleton, W. P.: Brain abscess: Its surgical pathology and operative technic. New York: The Macmillan Company, 1922.
4. King, Joseph E. J.: Arch. Otol., 1:1.
5. Faunce, C. B., and Shambaugh, G. E., Jr.: Arch. Otol., 17:673-678.

## CORONARY THROMBOSIS WITH PAROXYSMAL VENTRICULAR TACHYCARDIA

HUGH STALKER, M.D.†

DETROIT, MICHIGAN

Individual cases are frequently very instructive both from a diagnostic and a therapeutic standpoint. Sir James MacKenzie said, "If we are to make any progress in the medicine of the future, it will be through the interpretation of early symptoms."

In characterizing Osler, the teacher, W. S. Thayer wrote, "Observe, record, tabulate, communicate. Medicine is learned by the bedside and not in the classroom."

The case I am presenting is interesting for the following reasons:

1. Incorrectly diagnosed for a few days.
2. The electrocardiograms were not very characteristic of a coronary accident for several days had not the history been obtainable.
3. Paroxysmal ventricular tachycardia of twelve hours' duration.
4. The treatment with quinidine.
5. A change in the electrocardiogram for the day following the tachycardia and then on the second day following the tachycardia a return to the first picture of left coronary accident, four months later back again almost to the original curve.

### Case Abstract

A single man, forty-eight years old, 5 feet 10¾ inches in height, weight 208 pounds, was seen by his physician on April 5, 1933. He complained of several short stabbing pains under the sternum with some numbness in his left arm to the extent that he could not hold his cigar. This attack, which followed a hasty luncheon, lasted from about two to six o'clock, the pain recurring at intervals of thirty seconds to five minutes. The question arose as to whether the pain was due to a mild heart attack or "acute indigestion." He was given some soda with no noticeable relief. The discomfort passed off and, feeling well for six to seven days, he went to Northern Michigan to his summer home. He worked out of doors all the first day there and as a result felt very tired in the evening. He ate his evening meal rapidly, following it with one high ball. Later, he retired to a cold bed that had not been aired. During the night, he had a slight feeling

of fullness in the epigastrium for which he arose and took some soda. Shortly after, the discomfort began again under the sternum and became progressively worse. After an hour or two, he called a doctor who immediately sent him to the hospital where he was given a hypodermic (presumably morphine) and stupes to his abdomen. Again the diagnosis was "acute indigestion." The patient later stated that his systolic blood pressure was between 120 and 140 at that time. He remained in the hospital for two days and then, as there was no improvement, he got up and drove back to his city home two hundred and thirty miles away. En route, however, he had to stop three or four times and sleep for about ten minutes. He stated it was almost impossible to stay awake and that he had considerable pain in his precordium and generalized weakness. The day after his return, the pain continued—at which time the writer first saw the patient and sent him to the hospital.

The mother died of apoplexy at seventy-eight. There is one sister living who has heart trouble.

The patient was an occasional drinker; smoked a great deal but did not inhale; drank neither coffee nor tea.

*Physical examination.*—The patient looked acutely ill and was apprehensive; slight cyanosis. *Temperature* 101.2; *Pulse* 100; *Respiration* 26. *Heart*: To percussion, apex one centimeter outside of left mid-clavicular line; two centimeters to right from mid-sternal line; great vessels five centimeters. No thrills; sounds of fair quality; regular rhythm; slight accentuation of first sound at apex; no gallop rhythm. Definite friction rub to left of sternum. Blood pressure 104/80 m.m. of mercury.

*Laboratory findings.*—

4/19/33 Hemoglobin 93 per cent (Sahli); red blood cells 4,460,000 per c.mm.; white blood cells 11,750; myelocytes 2 per cent; stab forms 7 per cent; segmented forms 68 per cent; lymphocytes 23 per cent.

4/25/33 White blood cells 8,750.

5/1/33 White blood cells 13,100.

5/6/33 White blood cells 8,400.

4/19/33 Urine showed a slight trace of albumin.

†Dr. Stalker is a graduate of Harvard University Medical School, 1924. He did postgraduate work in Cardiology, Harvard University, 1931, 1932, 1933, and in London, England, 1934. He is physician to Outpatient Department, Harper Hospital (Cardiology Clinic) and Children's Hospital of Michigan (Cardiology Clinic); visiting cardiologist, Convalescent Home, Farmington; physician to Cottage Hospital, Grosse Pointe Farms, and to Grosse Pointe Hospital.

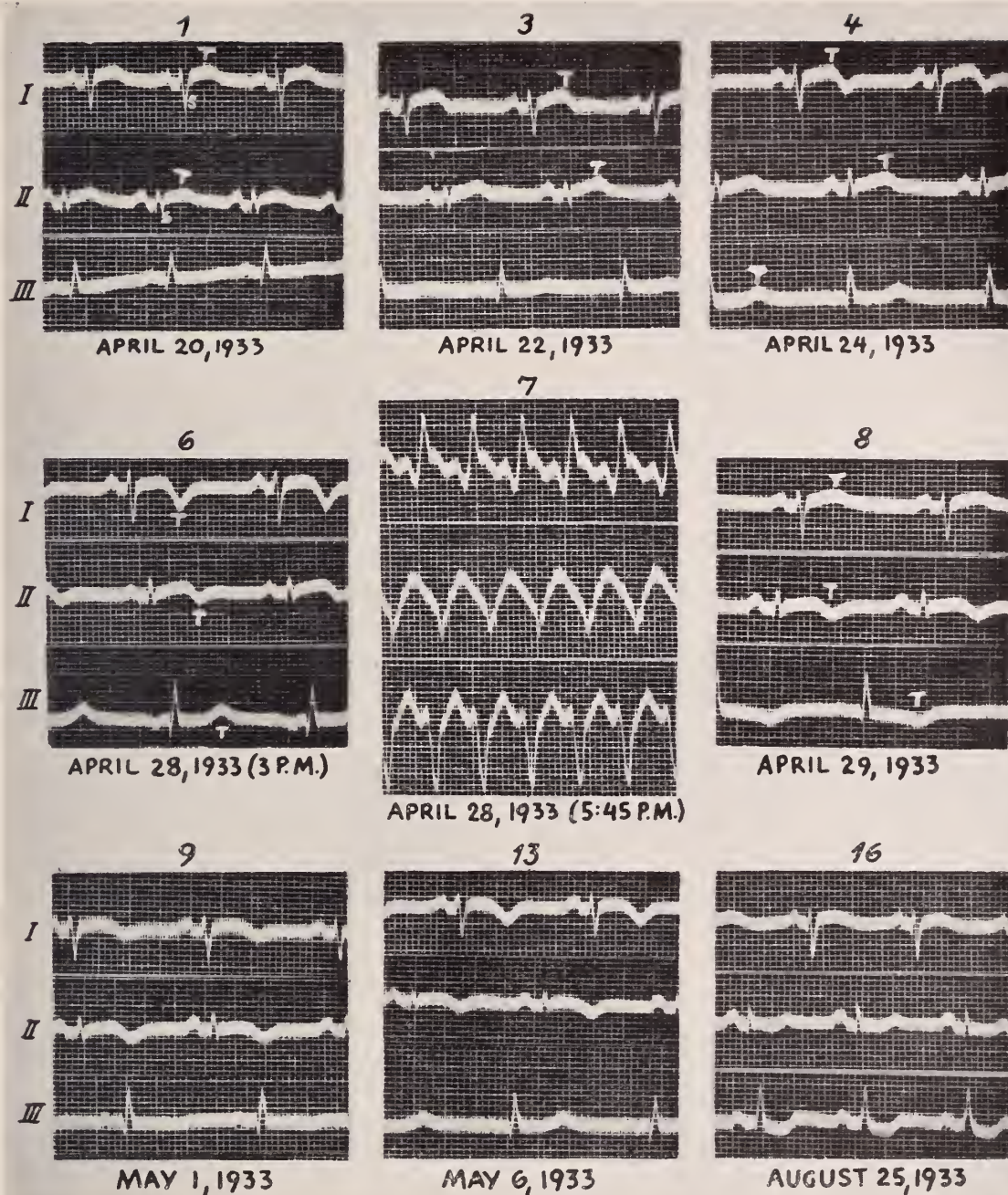


Fig. 1.

4/21/33 Blood non-protein nitrogen: 53.1 mgs. per 100 c.c. of blood; 5/1/33 45.4 mgs. Wassermann; negative.

4/21/33 Sedimentation rate; 18 m.m. in 30 minutes.

4/25/33 Sedimentation rate; 18 m.m. in 1 hour, 20 minutes.

5/6/33 Sedimentation rate; 18 m.m. in 1 hour, 30 minutes.

**Treatment.**—Morphine sulphate grains  $\frac{1}{4}$  were given every four hours for the first few days. The patient was placed on a liquid diet. Quinidine sulphate grains 3 were given three times a day; metaphyllin grains  $1\frac{1}{2}$  were given three times a day; phenobarbital grains  $\frac{1}{2}$  were given three times a day; amytal grains three every night.

**Progress.**—Temperature dropped slowly and became practically normal on the eighth day. Pulse by fifth day had slowed to 75. Friction rub disappeared two days after noted. On the third day in hospital, blood pressure dropped to 80/50.

April 28, 1933, fourteenth day following coronary accident:

3:30 P. M.: Temperature 98.3; pulse 68; respirations 18; comfortable; EKG taken; color good; not perspiring; heart sounds faint but fair quality—no thrills, no murmurs, sounds at base very distinct; blood pressure 80/50.  
5:30 P. M.: Suddenly patient complained of substernal pain. Pulse impossible to count.



- 5:45 P. M.: Heart showed a very poor quality; quite regular rhythm at about 170 with slight variation in quality of first sound at apex; unable to get any blood pressure reading; patient perspired; slightly restless. EKG taken which confirmed the diagnosis of Paroxysmal Ventricular Tachycardia.
- 6:15 P. M.: Quinidine sulphate, grains 6 by mouth. Apex rate counted by auscultation every fifteen minutes.
- 8:15 P. M.: No change in rate; quinidine sulphate, grains 6; rate 170.
- 8:50 P. M.: Morphine sulphate, grains  $\frac{1}{4}$  for restlessness; perspiring a little.
- 10:15 P. M.: No change in rate, 168; quinidine sulphate, grains 6.
- 12:15 A. M.: Apex rate 162; perspiring freely; resting fairly comfortable; quinidine sulphate increased to grains 9 because of no break in rate.
- 2:15 A. M.: Rate 156; patient very nauseated but unable to vomit; expelling flatus freely; morphine sulphate, grains  $\frac{1}{4}$ .
- 3:10 A. M.: Rate 156; quinidine sulphate, grains 9.
- 4:35 A. M.: Rate 142.
- 5:00 A. M.: Rate 102; patient cold and clammy.
- 5:10 A. M.: Temperature 96.2; pulse 68; milk, 2 ounces, Spiritus frumenti,  $\frac{1}{2}$  ounce taken.

It may be noted that at 2:15 A. M. there were toxic signs of quinidine; but as the rate was not lowered and the drug is rapidly eliminated, it was given again at 3:10 A. M. From then on the rate became progressively slower and two hours later when the next dose was due, the rate was about normal. To prevent too much depression of the heart muscle causing sino-auricular block, of standstill of the auricle or the whole heart, or of ventricular fibrillation, quinidine was then discontinued. But with fear that the tachycardia might resume, quinidine was then started at 3 P. M. and given for two weeks every four hours day and night.

The patient gradually improved and was discharged to his home in an ambulance, on May 11. During the fifth week, he began to sit up a little every day and in about two months from the onset he was able to go out of doors for short walks without any discomfort. His systolic blood pressure rose to 112-120; his diastolic to 70.

April 5, 1934. One year from onset of symptoms the patient was able to carry on his normal duties quite comfortably. Occasionally, he complains of a tachycardia and mild sub-sternal pain, but these are most noticeable when he has broken his regime of stated rest, no smoking, and diet. He has been taking digitalis and metaphyllin.

*Electrocardiograms.*—Electrocardiograms were taken almost every day. Only the most illuminating ones are shown here. There is a tendency to low voltage and right axis deviation throughout. It is interesting that the true picture of a coronary thrombosis did not appear in the electrocardiogram for almost ten days following the accident. Of course, with the history and physical examination, the electrocardiogram gave suspicion of this condition. The difference in the curve on the day following the paroxysmal ventricular tachycardia was undoubtedly due to the quinidine.

- 4/20/33 No. 1 S-T interval in leads I and II slightly elevated; T III flat.
- 4/22/33 No. 3 1 The gradual inversion of T I & T II.
- 4/24/33 No. 4 1
- 4/28/33 3 P. M. No. 6 Coronary T-waves leads I and II with upright T III.
- 4/28/33 5:45 P. M. No. 7 Paroxysmal Ventricular Tachycardia.
- 4/29/33 No. 8 Inversion of T II and T III; T I upright.
- 5/1/33 No. 9-14 return to the picture of No. 6.
- 8/25/33 No. 16 Similar to curve No. 1 except for inverted T III.

### Summary

1. A case of coronary thrombosis is presented, illustrating a common error in diagnosis; namely, acute indigestion.
2. The appearance of ventricular tachycardia and its successful control with quinidine sulphate.

## GASOLINE AND KEROSENE POISONING IN CHILDREN

JOHN A. NUNN and FRANK M. MARTIN, San Antonio, Texas, discuss the clinical and laboratory examinations in seven cases of gasoline poisoning and sixty-five cases of kerosene poisoning. The total mortality of the cases was 11 per cent. Among the kerosene poisoning cases it was 9.2 per cent, while in the gasoline cases it was 28 per cent. In the fatal cases the children lived from two to eighteen hours after the ingestion and the aspiration of these substances. All the children who died showed definite clinical evidence of pathologic changes of the lung; namely, many moist râles in both lungs, rapid, shallow respirations and cyanosis. About one-third of the patients who had swallowed a large enough quantity of the substance to become sufficiently ill to require hospitalization had also aspirated some of the fluid. The patients who aspirated, as well as ingested, one of these petroleum products presented a much graver clinical picture, owing to the rapid development of pneumonitis, which was evidenced by cough and many moist râles throughout both lungs. In the fatal cases there were physical signs of pneumonitis. It is believed

that the pneumonitis was produced by the irritating properties of these substances, while the marked evidence of involvement of the central nervous system is due to the rapid and overwhelming absorption of the volatile fractions by the pulmonary circulation, this absorption being facilitated by the thin permeable alveolar wall. The symptoms of gasoline and kerosene poisoning are apparently produced by the toxic action of these substances on the central nervous system, principally the respiratory center motor areas and the vagus center. There is apparently no loss of oxygen-carrying capacity of the blood. The prognosis may be said to be in direct ratio to the amount of the hydrocarbon that enters the lungs, and that if the patient survives several hours he recovers completely. There are practically no complications or sequelæ in this type of poisoning. The irritating effects in the lungs and the gastro-intestinal tract disappear completely in from forty-eight to seventy-two hours. Treatment consists of removing as much of the offending agent as possible by gastric lavage or emesis and laxatives. When cyanosis and other signs of respiratory embarrassment are present the use of oxygen (95 per cent) and carbon dioxide (5 per cent) has been of considerable benefit.—*Journal A. M. A.*, Aug. 18, 1934.



# THE JOURNAL

OF THE

## Michigan State Medical Society

---

PUBLICATION COMMITTEE

J. EARL MCINTYRE, M.D., Chairman.....Lansing  
 A. S. BRUNK, M.D.....Detroit  
 HOWARD H. CUMMINGS, M.D.....Ann Arbor

---

Editor

J. H. DEMPSTER, B.A., M.D.  
 5761 Stanton Avenue, Detroit, Michigan

---

Business Manager

B. R. CORBUS, M.D.  
 2642 University Avenue, St. Paul, Minnesota, and  
 313 Metz Building, Grand Rapids, Michigan

---

JANUARY, 1935

---

### EDITORIAL

#### RECORDS

Almost any one can make and keep records. A few men do this fairly well, but it takes a real artist to make and keep good ones. No patient ever has a *complete examination*,—the body is too intricate, there are too many tests at one's command, and time and expense preclude all but a selected few. We may better speak of a *well directed examination*. A complete history of any patient would fill a book. A fine orderly record is one that tells the story, whether long or short, and records all the facts having a bearing on the diagnosis, the condition of vital organs and the patient's future, also the procedures instituted and the progress of events afterwards. The average hospital record falls far short of this.

To make and keep fine records requires time and painstaking effort, but it pays dividends in better service to patients in promoting thoroughness and clear thinking on the part of the physician, and in giving him a substantial basis for the writing of papers.

The American College of Surgeons in its standardization of hospitals found at the beginning that the hospital records of this country as a whole were in unbelievably bad condition. By steady insistence on its part and through the willingness of hospitals to coöperate they have improved enormously.

To encourage the idea the Editorial Board of Surgery, Gynecology and Obstetrics in 1930 requested the Board of Regents of the College to allow them to present an annual prize to the candidate for fellowship who presented the best set of all the records which are presented as a final test for fellowship. The College each year since then has placed candidates presenting the five best sets of records on an honor roll and they are introduced with fitting laudatory comments at the annual convocation.

It is with great and justifiable pride that we note that during the past five years Michigan has had a man on the honor roll five times—in 1931, Dr. Harold A. Furlong of Pontiac, second place; in 1932, Dr. William W. McGregor of Detroit, second place; in 1933, Dr. Dean C. Burns of Petoskey, third place; Dr. E. G. Bovill, Detroit, fifth place. At the October meeting in Boston this year (1934) Dr. Clarence H. Snyder of Ann Arbor was announced as having won first place and the prize. His records were the best among the more than five hundred who received fellowship. In material terms it meant a life membership in the College, the equivalent of \$500. An appropriate certificate was also presented to him. All the men mentioned deserve our hearty congratulations.

*Richard A. Smith*

---

#### FREDERICK G. NOVY

Scientist, Teacher, Administrator

At the last meeting of the Board of Regents of the University of Michigan official action was taken upon the retirement from active academic duties of Dr. Frederick G. Novy. On December 9 Doctor Novy reached his seventieth birthday anniversary. This event, in accordance with the rules of the University and those of the Carnegie Foundation, automatically terminated his active participation in the teaching functions of the University. The event is one of real significance to the many students and friends of Doctor Novy throughout the State and the nation.

As a scientist Doctor Novy ranks among the foremost bacteriologists of the world. As the only living disciple of Koch, he worked the then virgin field of bacteriology with such zeal that he achieved pre-eminence in the early days of bacteriological science.

His own contributions in this field are so well known that they need no reiteration. Suffice it to say that well before the close of his academic career he was an acknowledged authority and one of the world's outstanding figures in science.

As a teacher, many of the readers of this editorial will recall him as a brilliant lecturer, eminently fair, from whose lips came only scientific truth surrounded by no aura of rhetoric, embellished only by a rigid honesty of expression. His influence among medical students, however, went far beyond the mere contact of teacher and student. As one of the few remaining of an eminent group so largely responsible for the high place of Michigan's Medical School, Novy at all times was a real friend and guide to the many students who sought his counsel in matters affecting their careers. Immersed as he was in the laboratory, and a true academic figure, he nevertheless had a worldly wisdom which enabled him at all times to assume the rôle of counselor and friend.

The last five years of his University life have been devoted to the administration of the Medical School. The duties and responsibilities of this office entailed a deliberate sacrifice of his teaching and research activities. This sacrifice, however, he accepted in the same spirit that characterized his other achievements. The five years of his administration of the Medical School have been most harmonious, and he leaves the School with a united faculty genuinely regretful of his going.

Despite his seventy years, Doctor Novy is still fresh in mind and strong in bodily vigor. It is hoped that provision may be made whereby the remaining years of his usefulness can be spent in the further pursuit of those scientific truths and to the furtherance of medical knowledge to which he has already contributed so much.

---

## ECONOMIC SECURITY

The subject is of paramount interest to everyone. The immediate interest of the medical profession, however, is the matter of health service or health security, as a part of the larger scheme of economic security, concerning which a keen interest has been manifest among members of the profession throughout the United States. There is a

fear lest, in the event of state controlled medicine, the personal relations between physician and patient may be sacrificed or that some equally undesirable result may eventuate in any change from the traditional methods of practice. The President has assured us, however, that in the event of health legislation every effort will be exerted to increase rather than to retard the efficiency of medicine. What this may mean exactly, perhaps no one knows at the present time.

The medical personnel of the Committee should be assuring to the medical profession at large. Here are the members of the board: Dr. Harvey Cushing, New Haven, Conn.; Dr. Walter L. Bierring, Des Moines, Iowa; Dr. James Alexander Miller, New York; Dr. Robert B. Greenough, Boston; Dr. James D. Bruce, Ann Arbor, Mich.; Dr. Rexwald Brown, Santa Barbara, Calif.; Dr. Thomas Parran, Albany, N. Y.; Dr. George W. Crile, Cleveland; Dr. Stewart R. Roberts, Atlanta, Ga.; Dr. George M. Piersol, Philadelphia, and Dr. J. Shelton Horsley, Richmond, Va.

No body of organized medicine has been called upon to select the person who shall represent it on the board. However, it is doubtful if men more representative of the profession, by and large, could have been selected by any medical organization. They are all men of judicial temperament and character, of responsibility, and all are eminently respected not only in the positions they occupy, but in the communities from which they come. They can be depended upon to render unselfish and unbiased service.

There is a certain advantage in being represented by one whose judgment may be trusted rather than trammelling him with directions and restrictions which he may not be free to modify, should it seem wise to do so.

A reassuring feature is the technical staff among whose members are Dr. R. G. Leland and A. M. Simons of the Bureau of Economics of the American Medical Association and Dr. Nathan Sinai, former director of the Committee who made the survey of Health agencies in Michigan. The experienced technical staff will take up the work with a developed technique. It is presumed from the employment of a technical staff the medical board of advisors will investigate the subject *de novo* and not depend

to any great degree upon data already accumulated. Any movement towards a more adequate health service to the nation must be from the study of existing conditions rather than the conditions which prevailed during latter years of the inflation period.

### DR. FRANK ANDREWS

To H. L. Mencken is attributed the statement that there are no poor autobiographies. They may not be masterpieces of literature, but describing as they do the life of a single species of the *genus homo*, they always have a human appeal. Carlyle has gone him one better in regard to biographies. In his life of Stirling he says, "A true delineation of the smallest man and his scene of pilgrimage through life is capable of interesting the greatest man; each man's life is a strange emblem of every man's and human portraits faithfully drawn are of all pictures the welcomest on human walls." We are happy this month in the privilege of publishing a biographical sketch of a great man, and all faithful, conscientious, general practitioners are great, who is extremely fortunate in his biographer—Dr. A. W. Crane of Kalama-zoo.

At a meeting of the Lenawee County Medical Society at Adrian a complimentary banquet was held in honor of Dr. Andrews, who was made an honorary member of the County Society and also a member emeritus of the Michigan State Medical Society. We extend our congratulations.

Dr. Crane has chosen a thought-provoking title to his paper, "The Education of Frank Andrews," which he says was suggested by an autobiography that appeared a few years ago, "The Education of Henry Adams." Many members of the medical profession who have had half a century of practice are among the real scholars today in spite of the fact that their diplomas have antedated what is considered an epoch of medical history that has been more fruitful in discoveries and developments than all previous recorded time. Dr. Crane has recounted these great advances that have taken place since his subject received his medical degree from the University of Michigan. It has become almost a truism that the physician who is not constantly a student of medical literature becomes hopelessly out of date and outmoded within a very few years of

his graduation. There is no such thing as a "finished education" in medicine. Like "The Education of Henry Adams," the education of every progressive physician is "finished" only when he ceases to be a member of his profession.

### THE CRIPPLED CHILD ACT

There has been some expression of opinion regarding the alleged unfairness of the Crippled Child Act with particular reference to the fact that the surgical treatment has been assigned to such a small number of surgeons of the state. It should be remembered, however, that nothing evokes so much sympathy among the laity as a physical handicap, particularly if the person afflicted is a child. People, by and large, will go to almost any length to show their sympathy. This attitude toward the health of the physically handicapped is very much manifest by members of social noontide clubs, such as the Mystic Shrine, the Rotarians, Kiwanis and other organizations. The Shrine, an accessory to higher masonry, has long maintained a special hospital for the purpose of restoring the physically handicapped. In this state the Rotary Clubs have been particularly active. These organizations are composed of business and professional men who represent substantial as well as enlightened public opinion in the various cities and states. They are composed of men for the most part leaders in industry and business and professional life. Each organization contains its quota of doctors. They have set out to see that children have the best of hospital care, and logically to see that they get the best surgical treatment, which must be by trained orthopedists under whose specialty the crippled child naturally comes. They are thorough believers in specialists and they act accordingly.

Now it so happens that in Michigan the number of orthopedic surgeons is scarcely more than a baker's dozen. This is doubtless due to the fact that, up to the present time, the demand for their services has not been sufficient to call for a greater number, so that the comparatively few practising orthopedists have fallen heir to the work asked of them by the Rotarians and also by the Michigan League for the Crippled Children and similar organizations. Doubtless



many of these cases could be handled adequately by general surgeons and possibly considerable numbers by the general practitioner or internist who was willing to give them the necessary time and study, particularly those cases in which treatment consisted of splinting, or casts or jackets. Orthopedics has not been an attractive specialty to many owing to the long periods of time (extending often for years) it often demands to secure satisfactory results. Through the influence of the organizations mentioned the state has been prevailed upon to pay a fair fee for the treatment of these unfortunate children. Since the number of orthopedists is limited and the number of patients practically unlimited, the remuneration amounts to what is an enviable income under present conditions. However, that appears to be the good fortune of those who are equipped to do the work. The income would be less in proportion to the increasing numbers of those especially qualified to do the work.

### 1935\*

Ring out, wild bells, to the wild sky,  
The flying cloud, the frosty light;  
The year is dying in the night;  
Ring out, wild bells, and let him die.

Ring out the old, ring in the new,  
Ring, happy bells, across the snow:  
The year is going, let him go;  
Ring out the false, ring in the true.

Ring out the grief that saps the mind,  
For those that here we see no more;  
Ring out the feud of rich and poor,  
Ring in redress to all mankind.

Ring out a slowly dying cause,  
And ancient forms of party strife;  
Ring in the nobler modes of life,  
With sweeter manners, purer laws.

Ring out the want, the care, the sin,  
The faithless coldness of the times;  
Ring out, ring out my mournful rhymes,  
But ring the fuller minstrel in.

Ring out false pride in place and blood,  
The civic slander and the spite;  
Ring in the love of truth and right,  
Ring in the common love of good.

Ring out old shapes of foul disease;  
Ring out the narrowing lust of gold;  
Ring out the thousand wars of old,  
Ring in the thousand years of peace.

Ring in the valiant man and free,  
The larger heart, the kindlier hand;  
Ring out the darkness of the land,  
Ring in the Christ that is to be.

—TENNYSON.

\*The title is supplied by the Editor.



## The Editor's Easy Chair

### RECEDING FRONTIERS

If one were to express in a sentence the greatest need of the present era, it might be phrased some such way as this: The greatest problem of the present day is how to procure such economic security as will enable men to live together in comfort and happiness, with means and leisure to get the most out of life. The phrase "most out of life" is to be interpreted by each according to his desires.

There are two ways of handling problems: one is the endeavor to solve them; the other is to run away from them. Problems of population have in the past been solved by the second method. The great mass movements of mankind have been due in the main to an effort to avoid difficulties incident to over-crowding. It is much easier to seek green pastures at a distance than to remain on the spot and improve agricultural conditions. This may be applied in a less literal sense. Before the invention of the mariner's compass humanity was to a greater or less extent stationary. The mariner's compass which made possible accurate sense of direction, made it also possible for more extensive navigation; it opened the way through hitherto uncharted seas.

\* \* \*

During the fifteenth and sixteenth centuries problems arose in England over religion, causing a division between the Puritans and the Established Church. The problem became acute. There were, however, two ways in which it might have been handled. The Puritans might have remained at home and, through time and persuasion, might have come to a satisfactory solution. The other course was to run away from the problem. They chose the latter method. Result, the founding of New England.

As the years passed, from small beginnings the population multiplied so that a new problem presented itself. Would it have been more expedient to remain on the Atlantic seaboard and eke out a livelihood

or to move the frontiers westward? As the population of the colony grew, expansion was along the line of least resistance, which meant towards the goal of the Pacific coast.

"I hear the tread of pioneers,  
Of nations yet to be,  
The first low wash of waves  
Where yet will roll a human sea."

The final frontier was reached during the later decades of the nineteenth century, but the trek has gone on until the saturation point appears to have been reached. Not only does this great mass of humanity include the descendants of the small group in the Mayflower, it has been augmented by millions from every country in Europe who sought the solution of their home problems by way of escape. Of course, there is something very commendable in pioneering. The pioneer has the spirit of the adventurer. He risks hardships and privation and makes the solution of their problems easier for those who remain at home. Much has been said in his favor. He typifies the rugged individualist at his best.

The time, however, has arrived when civilization finds itself static again notwithstanding the improved means of communication by water, by land and by air. It is in the position of the person who is all dressed up and nowhere to go.

Running away from our problems, however, has not been peculiar to people of the United States; every nation in the world has adopted the same method of attack or rather of avoiding the conflict. Such has been the history of colonization.

\* \* \*

So much for mankind in the mass. As individuals also we have adopted a similar method. The result has been the transformation of an agrarian population into one that is predominately urban. Back home on the farm were several sons in the family. The acres were not sufficiently broad to satisfy their ambitions. The problem was more intensive cultivation, or migration. One or two of the sons left home to seek his fortune in the professions, medicine or law; or it might be his acquisitiveness led him to embrace a business career. Probably the majority of men in the cities, who are past sixty years of age, can confirm this experience. They ran away from their problems, seeking greener fields in business and professional life. Time was when a large num-

ber of medical students came from the country. For a number of years, however, scarcely a farmer's son has been found among the classes in medical school. Medicine is recruited almost entirely from the city. The migration from the farm to the city has virtually ceased. The frontier outposts have been reached and also the saturation point of the professions as well as industry.

We have come at last to a stage in man's history when he must face his problems and find a solution. He can no longer run away. And this calls for all the cool reasoning and designing of which he is capable. Can man arise to Hamlet's estimate of him? "What a piece of work is man! How noble in reason! How infinite in faculty!"

Today he finds himself confronted with new frontiers. They are not concerned with geographic areas. "More and more of our people," according to Wallace, "are again emigrating to a new world. But this new world cannot be found on the maps. The pioneers to settle this new world do not cross the ocean. To enter it calls for an adventurous spirit."

Will we be equal to the venture? Time only will tell.

---

#### JUST TH' MAN O' IT

Ah canna get this auld, auld worl'  
Tae run th' way ah want it.  
It rains just when ah want it dry,  
The sun is hot upon it.

Then God comes doon in thunder  
Just when ah want it quiet,  
Ah me, this miserable soul  
Is gropin' in a riot.

An' fall comes on afore ah'm done  
Aharvestin' th' corn;  
Jean needs a coat, ah haena one,  
An' son nae likes th' farm.

It's aye th' way wi' human man,  
He's ne'er prepared tae go,  
He's a'ways fumbelin' wi' a plan,  
'Twas ever thus an' so.

Ah weel—Guid Nicht.

WEELUM.

---

#### SPARE THEIR FEELINGS

"The feelings and emotions of the patients, under critical circumstances, require to be known and to be attended to, no less than the symptoms of their disease. Thus, extreme timidity, with respect to venesection, contraindicates its use, in certain cases and constitutions. Even the prejudices of the sick are not to be condemned or opposed with harshness. For though silenced by authority, they will operate secretly and forcibly on the mind, creating fear, anxiety and watchfulness."—Percival's "Medical Ethics," Year 1803.

## A MOMENT OF MEDICAL HISTORY

W. T. D.

### ANTISEPSIS

Decomposition processes affect the preservation of food, the disposal of sewage, the health of the living and the care of the dead. Thus, putrefaction is a problem of medical importance. While the problem is age old, precise knowledge concerning the nature of putrefaction and its control has accumulated only during the lives of men now living.

From the time of the ancient Greek physicians, the putrefaction of wounds was regarded as an unfavorable sign. According to the philosophy of the time, wounds were characterized by their moistness or dryness. Purulent wounds were found to be moist while dryness predominated in normal healing. In the avoidance of putrefaction or in the treatment of morbid wounds, certain desiccating agents were used. Desiccant and astringent medications were applied in an attempt to induce dryness and thus allow a wound to heal more normally. The principal agents employed to prevent putrefaction were powdered sea salt, ointments or powders consisting of salts of copper, ointments of tar and creosote, resins and various aromatic oils. Wine usually applied hot in the form of compresses or washes was commonly used for its antiseptic effect on wounds. The use of the cautery in opening abscesses and in operative procedure generally had a drying effect upon wounds and tended to prevent putrefaction. The aseptic method was approached in the cleansing of wounds with boiled water and in the use of clean linen and bandages.

In the conservation of bodies previous to burial, such desiccants as oil of thyme, cedar, aloes and myrrh were applied, and, among the Egyptians, more elaborate embalming methods involving the use of creosote, and tar and wood distillates were common. The use of perfumes among the ancients was widespread both for personal use and in religious rites, though, for thorough disinfection of rooms, the burning of sulphur was most effective.

Among the people of antiquity as well as of the Middle Ages, little was known con-

cerning the nature of putrefaction beyond the disagreeable character of the smell associated with decomposition. The agents used in its control were empirical discoveries lacking a rational background. Philosophers and naturalists of the Renaissance speculated on the causes of putrefaction, but their conclusions amounted to little more than the recognition that dead bodies by nature putrefied while living ones did not. A significant discovery in the seventeenth century was the conserving property of alcohol, though this material was practically unused except in anatomical museums.

The first extensive, experimental study dealing with decomposition and the agents which deter the process was that of Pringle in 1750. Pringle compared various antiseptics in relation to their ability to prevent the putrefaction of beef. He expressed the relative antiseptic virtues of such agents as marine salt, borax, alum, aloes and camphor by numerical factors, and his values correspond fairly well with more recent evaluations of antiseptics. In the development of modern chemistry, some attention was directed to putrefaction. Certain decomposition products were identified and new disinfecting agents, such as chlorine and hydrogen chloride gas were discovered. Putrefaction came to be considered a complex chemical process in which certain labile constituents of the putrescible material acted as catalysts to hasten the breakdown of the remainder of the dead material.

The crowded living conditions associated with the Industrial Revolution and the increased urbanization of the population introduced an important hygienic problem. This was particularly apparent in the hospitals, which were centers of contamination. Obstetrical and surgical operations were invariably complicated by septicemia, pyemia and erysipelas. Antiseptic agents were used sporadically in the dressing of wounds, but there was no rational method of treatment.

Antiseptics had been used empirically in surgery by a number of physicians, though the practice had never become widespread. John Colbatch had treated wounds with antiseptic powder in the late seventeenth century and Bilguers, about 1764, had used balsam and essential oils in wound dressings. In 1795, J. C. A. Theden used a lotion of sorrel water and alcohol. Toward the middle nineteenth century, wounds were more



frequently treated with antiseptics and, in certain cases, it was noted that pyemia and hospital gangrene were reduced when antiseptics were used. Glycerine was used on wounds by Demarquay, who considered the substance a specific for pyemia. Alcohol and alcoholic solutions of various sorts were used about 1863 by Nealon and Chedevergne. Iodine and zinc chloride had been introduced by this time and coal tar had been used several decades earlier.

In 1859, Corne and Demeaux introduced a paste dressing for wounds, consisting of coal tar, olive oil and plaster. This received much comment in France and a commission of the French Academy studied the mixture. Another wound dressing consisting of coal tar and saponine was introduced by J. Lemaire. Lemaire's studies on antiseptics led him to an extensive work on carbolic acid published in 1863 and 1865. He suggested the use of carbolic acid for a number of medical conditions as well as for the treatments of wounds. In discussing the action of carbolic acid on wounds, Lemaire noted the studies of Pasteur and even advocated the germ theory of disease. Lemaire fell short of appreciating the value to surgery of a thoroughgoing antiseptic method. This remained for Lister, who, incidentally, was unaware of Lemaire's studies. Küchenmeister of Dresden had used carbolic acid as an antiseptic with good results in 1860.

The treatment of sewage by carbolic acid and other antiseptic agents had been in use by the middle of the nineteenth century, and, by this time, also, the practice of embalming by injecting antiseptic substances into the blood vessels had become common.

Joseph Lister began studying the nature of inflammation and attempted to analyze scientifically the nature of sepsis. He had decided by 1861 that the occurrence of supuration in a wound was determined by decomposition processes arising in the wound. Four years later, after reading of the experiments of Pasteur, Lister initiated a method of treating surgical wounds by the scientific and systematic application of antiseptic agents and initiated also a new appreciation of the value of antiseptics.

Previous to Pasteur's study, the sense of smell was the sole test of putrefaction; afterwards, the growth and activity of bacteria determined the character of putrefactive changes. In 1860, following a four

year study of various types of fermentation, Pasteur turned his attention toward putrefaction and the question of the possibility of spontaneous generation of life. Many years before, Spallanzani and Redi had disproved the assertion that animals could be born from inorganic material or from dead and putrefying animal or vegetable remains. The discovery of minute organisms by early microscopists, however, had revealed a new world of living matter. When the Darwinian theory of evolution appeared in 1859, microscopic organisms assumed a new importance. Was it possible that these forms were intermediate evolutionary stages between the inorganic material and the higher forms? The question of the spontaneous generation of these forms arose.

Pasteur in his studies experimented with such putrescible liquids as milk, urine and blood. When flasks containing these substances were sterilized by heat and sealed, no organisms appeared. Exposure to the air resulted in putrefactive changes and the presence of microorganisms unless the air were filtered by cotton wool. If a pledget of the cotton filter were introduced into the liquid, putrefaction ensued. Pasteur concluded that sterile putrescible substances would not decompose unless they were exposed to the dust of the air. He exposed flasks at various altitudes, in crowded places and in desolate ones, in the city and in the country, and found that air differed in the amount of microorganisms which would cause putrefaction. By 1863, Pasteur had not only demonstrated the error in the spontaneous generation theory, but had also indicated that the air was a source of contamination. He furthermore identified the organisms of putrefaction with several microorganisms which Ehrenberg had previously described. Pasteur pointed out that putrefactive organisms were anaërobic. By protecting the surface of small chunks of meat with wrappings of alcohol-soaked cloth, Pasteur demonstrated that sterile meat would not putrefy and, at the same time, confirmed the antiseptic properties of alcohol. Putrefaction of a dead animal body was considered to be associated with the invasion of organisms from the intestinal tract and from the surface of the body into the tissues.

In 1865, when Lister became acquainted with Pasteur's studies, he was impressed by

the fact that blood decomposed on exposure to air. He pointed out that blood likewise putrefied in wounds surrounded by living tissue and gave rise to odors of decomposition. He believed that decomposing matter in a wound had a pernicious effect upon healing tissue. If the air surrounding a wound, thought Lister, could be filtered of its dust particles and microorganisms, the wound could be protected from contamination. Lister noted this condition in pneumothorax due to the fracture of a rib, but with no external laceration. Air passed through the bronchial tubes to the pleural membrane, but dust particles were filtered out before the air entered the pleural cavity. No suppuration was evident. If microorganisms could be similarly excluded from open wounds, Lister believed that blood poisoning, erysipelas, pyemia, septicemia and hospital gangrene, which formed the surgeon's chief problem, could be avoided. Since it was impractical to filter organisms from the air, Lister attempted to prevent the establishment of organisms in a wound by the use of antiseptics. Becoming aware of the successful use of carbolic acid in the treatment of sewage at the town of Carlisle, he decided that this agent would be powerful enough for his purpose. Carbolic acid, because of its soothing effect upon the sensitive surfaces of wounds, had been employed occasionally in dilute solutions for surgical dressings previous to this time.

After two years of trial, Lister published in 1867 the results of his treatment of compound fractures by excluding putrefying agents with strong carbolic acid solutions. The treatment was so successful that hospital gangrene and pyemia were practically eliminated from Lister's hospital wards. He applied strong aqueous solutions of carbolic acid, oily solutions and pastes containing the antiseptic. Month by month, improvement in the application of the antiseptic agent was made. The technique was extended to the lancing of abscesses. Instruments were sterilized in carbolic acid, and every precaution was taken to prevent organisms from entering wounds. In surgical operations, a spray was introduced to eject a fine mist of antiseptic over the field of operation. Throughout, Lister emphasized that it was not the carbolic and other antiseptics which were responsible for his success, but the "wonderful powers of recovery

possessed by injured parts when effectively protected against the pernicious influence of decomposition." Within a few years, French and German surgeons, as well as those in Great Britain, had adopted the technique, and the spray became common. By 1875, many hospitals had benefited by the decrease in deaths due to wound poisoning.

It was found, however, that carbolic acid poisoned the peritoneal cavity, benumbed the surgeon's hands and possessed an objectionable odor. Tait and Bannock among others, therefore, began to modify the technique of Lister. They boiled their instruments and observed certain precautions of general cleanliness in their operations with results which were as satisfactory as those during the period of the use of carbolic acid. In 1887, Lister himself abandoned the carbolic spray. At this time it was clear that the air was not as important a source of contamination as dirty operative technique. The newer technique of general cleanliness characterized by the sterilization of the operator's hands, instruments and the skin of the patient, but avoiding the use of antiseptics during an operation, became known as the aseptic method. In principle it was the same, though in practice it differed from the antiseptic method. The aseptic technique was particularly stressed by German surgeons, and von Bergmann standardized the method so that by the last decade of the nineteenth century, surgical operations were accompanied by a ritual which involved the heat sterilization of instruments, gauze and dressings, and the extensive use of soap and water, alcohol and corrosive sublimate for cleansing. The operators were masked and were dressed in sterile white robes. The American surgeon, William Halstead, was the first to use rubber gloves, in 1889, though these were not extensively used until a decade later. After 1897, cotton gloves were preferred by many surgeons for a short time.

By the time of standardization of the aseptic method, considerable information had accumulated on antiseptics. Rational disinfection was impossible before pure cultures of bacteria were made by Koch and Pasteur. The former made extensive studies (1882) upon the disinfecting action of steam and dry hot air at various temperatures as well as of a variety of chemical disinfectants. Disinfection was further studied by



von Behring (1894) and by other bacteriologists, and it was found that a given antiseptic did not act the same toward all bacteria. Some microorganisms showed a higher resistance than others. It was likewise found that *in vitro* tests on pure cultures did not represent the bactericidal value of germicides applied to living tissue. Sometimes, serum interfered with the action of antiseptics. Commonly, a strong germicide proved of little value in a wound, because it killed the tissue as readily as it did the infecting organisms.

Studies in the twentieth century clarified many ideas concerning the effectiveness of various agents as wound germicides and as general disinfectants. The discovery of the disinfecting value of coal tar dyes and of organic compounds containing mercury and silver salts resulted in the introduction of these substances.

As the newer knowledge of antisepsis at the end of the nineteenth century resulted in advanced surgical procedure and improved methods of disinfection and fumigation, clinicians became aware of the importance of antiseptics in preventing the spread of contagious disease. They learned of the possibility of the spread of disease through clothing, bedding and utensils, as well as through the contact of sick patients with attendants and even with physicians. Attention during the first fifteen years of the twentieth century was directed to establishing systems of cleanliness in contagious wards. Thermometers were sterilized before and after use. Aseptic precautions were taken regarding the physicians' hands and clothing. The clinician has attempted to discover internal antiseptics of use in the urinary and digestive tracts, but so far, with the possible exception of urotropin, the results of these attempts have proved of minor importance.

The history of antisepsis has shown progress from an empirical to a rational stage and from a period of faith in antiseptics to a stage of skepticism in which it was realized that a perfect antiseptic was a Utopian dream. Though antiseptics have proved indispensable in the control of infective and putrefactive processes, the appreciation of the possibility and importance of asepsis has been the lasting contribution of modern study.

### A LAY TRIBUTE

The *Ohio State Medical Journal* in a recent number quoted the following editorial from the *Cleveland News* which will be appreciated by those in the active practice of medicine.

"A health journal devotes a page to discussing the question of why the doctor's bill is always the last to be paid.

"It shows a picture of a typical American family going over its accounts at the end of the month, calling its budget balanced because all of its bills 'except the doctor's' will fit in.

"The depression has served, as nothing else, to stress the prime injustice of making the doctor take it coming and going when times are hard and money is scarce.

"The doctor's services are needed just as much in bad times as in good, and are as cheerfully rendered.

"The doctor, in justice to humanity and the dictates of his high calling, cannot refuse to be of aid when needed. Yet in hard times he must suffer the loss of returns on his own investments, perhaps go through a bank failure or two, and assume other people's financial burden on top of his own by carrying the majority of his patients 'on the books.'

"The doctor can't take away the baby because the installments cease to be paid. He can't foreclose on our families, or shove us back into our previous state of bad health because we are unable, or refuse, to pay him. He can't put a cash and carry sign over his door.

"He wouldn't if he could. His philosophy is all against it.

"His life story is one of service, of making other people happy, no matter how down in the mouth he may feel himself. He must be a good actor when he approaches his patient, especially the very young patient who so often needs him. He must 'sell' health and recovery and the principles of right living.

"Yet at heart he is neither an actor nor a salesman.

"The world knows him for a kindly, sympathetic, unselfish human being, working day and night, who sees so much of suffering that he enjoys the thrill of the true craftsman in seeing his efforts yield results in health and happiness.

"Each of us would consider himself very shabbily used if the doctor would turn to our aid only after he had seen to everything else that had a claim on him. Yet all too often we let the doctor worry about his taxes, his rent, his car, his light and gas and telephone bills and the expenses of his office while we take care of those obligations which most urgently and disagreeably press us.

"Let's try paying the doctor first for a while—he can endure the shock.

"Let's budget our household expenses so as to provide in advance a modicum of income for health emergencies and make the doctor as happy as we are when he has done his part and helped put us on our feet, save our lives and our jobs.

"It isn't fair to penalize our best friend for our own failure to install the right kind of home book-keeping, even though we have become used to it."

*"Liberalism (in the sense of freedom of enterprise) is the régime of easy times, and authoritarianism is the outcome of difficult times. It is an advantage to live in easy times, but whenever times are difficult there arises the necessity of the subordination of the individual to a concentration of authority. In many periods of history this has been so, and we accept the fact that the necessity for authority has arisen again."*

PROFESSOR TOYNBEE.



## DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

### WHAT OF THE NEW YEAR?

Comes now the New Year, and with it new and important problems which we, as a profession, must meet with wise decision, and with full courage. Chief among these problems is the pertinent one of Medical Economics.

Unquestionably there is a rising tide of insistence that the pattern of medical practice be changed so as to provide more adequately the modern requirements of good medical service to those in the lower income brackets. That this insistence has been promoted and fostered by foundations and social workers, and that the inadequacy of service has been definitely exaggerated, does not change the fact that inadequacy does exist and would be greatly increased if it were not for the free or part free service that the doctor has, as a part of his traditional obligation, gladly rendered.

But the burden in such times as these rests heavily on the profession, and the Michigan State Medical Society has seen the necessity of providing some way in which these patients may pay their own way in whole or in part. We welcome the President's Commission on Economic Security and the Advisory Medical Committee associated with it. We are complimented that on this committee is one of our own members, and that another member was invited to speak before the National Conference on Economic Security recently held in Washington. We hope that this committee, through its studies, may find a way alike satisfactory to doctor and patient. That way must permit the doctor to find that joy in the practice of medicine which comes with an independent life and an income sufficient to make it possible for him to give the best of himself and the best that medicine has to offer to his patients.

It seems likely that there is to be a delay while the profession is given the opportunity to find a way to change the pattern of medical practice to fit the changed conditions of our time. It would seem that Michigan, with its special preparation for the

task, might well take the lead among state organizations and either proceed with the Mutual Health Service plan or develop some other plan which, while maintaining the principles laid down by our House of Delegates, shall accomplish the essential service of providing thoroughly good and more evenly distributed medical care. It is fortunate that Michigan had its vision and that we have the report of the Committee on Survey of Medical Services and Health Agencies, upon which to base such a plan.

### CANCER IN MICHIGAN

In keeping with other parts of the country, the cancer problem is assuming increasing importance in Michigan. While the death rate from malignant disease is lower in this state than in adjoining states, the rate of increase calls for serious consideration of measures for its control and prevention.

The cancer problem has never been studied in Michigan on a statewide basis as have other problems touching on medical practice. The extent and distribution of facilities for diagnosis and treatment were studied by the Cancer Committee of the State Medical Society several years ago\* but circumstances prevented the follow-up necessary to develop an adequate organization of this information for the better care of cancer patients.

Cancer, the second cause of death throughout the United States, is still shrouded in mystery and looked upon with pessimism by the majority of laymen, and by too many physicians. This pessimism in the laity can be charged to ignorance of the cause and the hopelessness of a cure. The pessimistic physician evidently has not been impressed by advances made in recent years in the prevention and cure of cancer. Too often he is still thinking of the incurable

\*Supplementary Report of Cancer Committee. C. E. Dutchess, Chairman. Journal Michigan State Medical Society, page 98, February, 1932.

cases that have come to his attention. With more than 24,000 cured cases of cancer reported by the American College of Surgeons, no one can still say that cancer is an incurable disease.

During the coming year the cancer problem in Michigan will be surveyed by the American Society for the Control of Cancer, the work being carried out on invitation of and under sponsorship of the State Medical Society. This will be a *fact finding* survey and will extend to all hospitals of 25 beds or more. Dr. F. L. Rector, Field Representative of the American Society for the Control of Cancer, will conduct the field work and prepare the report.

Hospitals and members of the State Medical Society are urged to cooperate fully with requests for data and other information that will be made as the work progresses. They can rest assured that no heavy task will be required to furnish the desired data. They should appreciate that the report will have value only in proportion to the cooperation received while the field work is being carried out.

Through cooperation of the State Department of Health a more comprehensive survey than has been possible elsewhere will be carried out. The results should add materially to information about cancer incidence and mortality, and facilities for its diagnosis, treatment and control. All other agencies that can throw light on the subject will be consulted.

A report of the survey with recommendations will be made to the State Medical Society. It is hoped that out of this effort will come an added appreciation of the cancer problem and a better organization of Michigan's facilities for the prevention and control of this disease.

## BUYING HEALTH

The December number of the *Survey Graphic* is given up to a symposium under the above title, where are presented the views of various individuals and organizations on this pertinent subject. To give up the entire issue to this discussion is impressive evidence of the mounting interest among both the laity and the profession in Medical Economics, and emphasizes the conflicting views that prevail.

A pre-publication announcement says, "President Roosevelt's message in June

made security of health an issue of national policy. *Survey Graphic* discloses how by fall it had become an issue in politics." Some features of the report to be brought out by the President's Committee on Economic Security are forecast by Secretary Perkins.

"Michigan Makes Ready," is the title of an excellent article by former Secretary Warnshuis, which appears in this issue. Other contributions of interest are: "Medicine's Right to Control" by William Trufant Foster; "The Public's Impatience" by Lee M. Merriman, a newspaper man; "The Old Family Doctor—And The New" by Dr. N. B. Van Etten; "We Believe in Group Medicine" by Dr. Rexwald Brown; "The Challenge of Socialized Medicine" by Dr. Joseph Slavitt; "Can Health Be Bought?" by C. E. A. Winslow. In addition are noteworthy articles by Dr. R. G. Leland, Dr. Michael M. Davis, Edward A. Filene, Dr. N. W. Faxon, and others.

If this issue of change in the pattern of medical practice is to be intelligently faced more emphasis must be placed on the education of the doctor in this medical-social field. The study cannot be left to a few leaders and the members of Economic Committees. This article is written to urge a studious interest by every member of the profession. The current issue of the *Survey Graphic* is a good place to begin.

---

BAY COUNTY MEDICAL SOCIETY comes to the post second with practically 100 per cent paid membership dues for 1935. Congratulations!

---

## MINUTES OF THE MEETING OF THE EXECUTIVE COMMITTEE OF THE COUNCIL OF THE MICHIGAN STATE MEDICAL SOCIETY

A meeting of the Executive Committee of the Council of the Michigan State Medical Society was held in Grand Rapids on Wednesday, December 12, 1934, with the following present:

T. F. Heavenrich, Vice Chairman  
Henry R. Carstens  
C. E. Boys  
J. Earl McIntyre  
Henry A. Luce  
Councilor, Thomas P. Treynor  
Councilor, Henry E. Perry  
President, Richard R. Smith  
Secretary, Burton R. Corbus

The Secretary presented a communication from the American Society for the Control of Cancer,

announcing its intention of beginning a cancer survey in Michigan in January. A communication in regard to a newly organized Allied Health Group. Certain communications from Wayne County referring to the New York Dispensary Law, the Administration of the Afflicted Child Law and in regard to S.E.R.A. fees for medical care. Also communications from the Field Director of the American Society for the Control of Cancer and from the Cancer Committee of the State Society asking that they be allocated funds. These communications were discussed and the Secretary instructed to present them to the Council at its January meeting.

Doctor Luce requested a discussion in regard to the activities which should be undertaken by the Economics Committee and the policies which should govern the committee during this coming year. As Speaker of the House he presented for consideration a tentative list of appointments for this committee and explained that these appointments had been delayed in the expectation that out of the Conference on Social Security or from Washington might come information which might influence him in choosing the personnel.

Doctor McIntyre presented for discussion the proposed Old's Makers Health Service Plan.

Doctor Smith reported for the committee appointed to receive applications and interview prospective applicants for Secretary of the State Society.

Doctor Smith presented a communication from Doctor Garipey, which was referred to the committee on County Societies with instructions to report at the January meeting.

The secretary presented a financial statement and discussed the question of dues for the coming year. On motion of Doctor Boys, the Secretary was instructed to subscribe to a Clipping Bureau for current material on Medical Economics and Sociology.

On motion of Doctor Carstens, the Secretary was instructed to exceed the budget for Secretary's salary to allow for the overlapping of two weeks.

The question of the place for the Annual Meeting of the State Society was discussed and was referred to the January meeting of the Council, with the request that information in regard to the availability of certain locations be prepared for this meeting.

On motion of Doctor Luce, seconded by Doctor Boys, the Secretary was instructed to call the January meeting of the Council for the 16th and 17th of that month in Detroit.

The Legislative Committee having asked for instructions, its problems and proposed procedures were discussed at length, ending in the following motion by Doctor Luce, seconded by Doctor Boys and passed by the Committee:

Since in this discussion of legislation certain procedures are presented which, in the opinion of this Committee, involve marked changes in present policies and recognizing that in regard to change of policy there is among the profession a wide variance of opinion, it is directed that the matter be referred to the January meeting of the Council.

On motion, the Executive Committee voted to appropriate \$250 to the Chairman of the Legislative Committee for expenses in Lansing between now and the 20th of January.

The meeting adjourned at twelve midnight.

(Signed) BURTON R. CORBUS,  
Acting Secretary.

## In Memoriam

*"And a man shall be as an hiding place from the wind and a covert from the tempest, as rivers of water in a dry place, as the shadow of a great rock in a weary land."*

This text from Isaiah has a singular appropriateness when applied to those listed below—our losses during the past year—for *this* they have been to the thousands of people to whom they devoted their professional lives.

### Bay County

George E. Andrews  
Ernest F. Crummer  
A. W. Herrick  
H. Payne Lawrence  
J. M. McLean  
Stanley E. Somers

### Berrien County

Henry G. Bartlett  
Charles N. Sowers

### Calhoun County

Robert M. Gubbins  
Rolland A. Welch

### Clinton County

W. A. Scott

### Delta County

G. A. Eychaner

### Genesee County

R. D. Brown  
Don D. Knapp

### Gogebic County

A. W. Lindholm

### G. I. C. Counties

E. M. Highfield  
Rayburn B. Smith

### Houghton County

John W. Moore  
Vernon L. Oler

### Ingham County

Robert A. Alton

### Jackson County

C. Brogan  
E. C. Taylor

### Kalamazoo County

John W. Bosman  
Neil L. Goodrich  
J. E. Maxwell  
Donald P. Osborne  
Marian Parker  
Frank C. Penoyer  
LaVern I. Rogers

### Kent County

Peter J. DePree  
P. T. Grant  
Henry L. Miller  
Simon L. Rozema

### Livingston County

J. E. Browne

### Macomb County

G. A. Persson

### Monroe County

E. S. Cornwell  
George B. McCallum

### Muskegon County

John Vander Laan

### Oakland County

Robert Y. Ferguson  
George Simenton

### Saginaw County

R. Mercer Carter  
H. W. Kauffold  
Matthew Kollig  
Ferdinand E. Parkinson

### St. Clair County

Roy A. Windham

### St. Joseph County

L. D. Becker

### Tuscola County

H. H. Merriman

### Washtenaw County

Robert G. MacKenzie

### Wayne County

Walter O. Allen  
Max Ballin  
Edgar V. Beardslee  
G. Russell Beck  
John E. Clark  
Victor C. Doherty  
Leland S. Evans  
J. N. Garber  
H. Wellington Green  
J. Albert Kimzey  
S. A. Kulick  
Byron Loney  
Ignatz Mayer  
George E. McKean  
F. Lyston Newman  
George O. Pratt  
Horace W. Sheldon  
R. J. Sisson  
John M. Thomas  
Harold Wilson  
Francis X. Zinger

### Wexford County

William T. Dodge



## COUNTY SOCIETIES

### BARRY COUNTY

About sixty physicians from Allegan, Eaton, and Barry Counties attended the regular meeting of the Barry County Medical Society at Hastings, Wednesday, December 5, 1934. The program was arranged by the Barry County Medical Society and the W. K. Kellogg Foundation.

The speaker was Dr. Bert Beverly of Chicago. Doctor Beverly is a psychiatrist to Children's Memorial Hospital, Chicago, and he is Associate Professor of Psychiatry in the Rush School of Medicine. His subject was, "The Relationship Between the Physical and Mental Development of the Child." His talk was very interesting and enjoyed by everyone.

H. A. ADROUNIE, M.D., *Secretary*.

### KENT COUNTY

The thirty-second annual dinner meeting of the Kent County Medical Society and the election of its officers held Wednesday evening, December 12, 1934, at the Rowe Hotel, Grand Rapids, with an attendance of one hundred and thirty members, terminated the activities of our Society for the year 1934.

The year ends with a total membership of two hundred and forty-six, and of this number, three, namely, Drs. Albertus Nyland, R. H. Spencer and L. A. Roller, are honor members of both the Michigan State Medical Society and our local Society, while four—Drs. Henry Hulst, Collins H. Johnston, James DeKraker and A. B. Thompson, Sr.—are honor members of our local organization alone.

Through death, the Society, during the past year, lost three members, Drs. Peter T. Grant, P. J. DePree and Henry L. Miller, and through transfers six members were lost to our roster. Six new members were added to our rolls.

Fifteen business and scientific meetings were held during the past year with an average attendance of sixty-eight per meeting.

Since the last annual meeting eighteen editions of the *Bulletin* have been published. During the past year no change has been instituted in the conduct of the publication of the *Bulletin*, it being edited by the secretary and the same arrangements for its printing and mailing have been continued. The Society suffers no expense in the publication of this *Bulletin*, the cost being covered by the revenue derived from advertisements.

At the annual meeting, preceding the regular order of business, a communication was dispatched to the executive committee of the council of the Michigan State Medical Society in session relative to important legislative matters.

After the annual reports and the address of the retiring president, the following officers were elected:

President-elect—Dr. John W. Rigterink

Vice President—Dr. Leon DeVel

Secretary-Treasurer—Dr. J. M. Whalen

Delegates to State Society—The present incumbents

Following the election, Dr. Carl F. Snapp, the retiring president, installed Dr. J. B. Whinery, the president for 1935, who concluded his initial address with an introduction of Dr. J. W. Rigterink, the president-elect.

J. M. WHALEN, *Secretary*.

### ST. CLAIR COUNTY

A regular meeting of Saint Clair County Medical Society was held at the Harrington Hotel, Port Huron, Michigan, Tuesday, November 20, 1934.

Dinner was served to over twenty members and our guest of the evening, Dr. Robert C. Jamieson of Detroit.

After a short business session the members of the Society had the pleasure of a very practical and interesting discourse by Dr. Jamieson. Two cases of acne vulgaris and one case of dermatitis venenata were presented by Drs. Wellman and Callery and Dr. Jamieson discussed the etiology, pathology, diagnosis, prognosis and treatment of both acne vulgaris and dermatitis venenata.

The remainder of the program was a series of lantern slides elucidated by continuous remarks from the speaker upon each condition. Slides showing typical cases of eczema, dermatitis, impetigo neonatorum, impetigo contagiosa, acne, pemphigus, psoriasis, nevi of the newborn, ringworm, dermatitis seborrheica, pompholyx, thrush, yeast fungus infection among Hebrew women, epitheliomata of face, head, lips and hands as well as many other dermatological conditions were presented.

Discussion was carried on by Drs. Wellman, Heavenrich, Callery and others. In conclusion Dr. Jamieson replied to many queries made by those present and thanked the Society for having had such a delightful evening. Before adjournment Dr. Armsbury, president of the Society, thanked the speaker for appearing before the meeting and giving such a fine address.

The last regular meeting of the year was held at the Harrington Hotel, Port Huron, Michigan, Tuesday, December 4, 1934. Supper was served to twenty-five members and a guest at 6 p. m. The meeting was called to order by President A. B. Armsbury at 7:30 p. m., with twenty-seven members in attendance.

Dr. Armsbury introduced Dr. Edgar Kahn, associated with Dr. Peet, University Hospital, Ann Arbor, who addressed the Society upon the subject of "Injuries and Tumors of the Brain and Cord."

The address was both timely and practical inasmuch as the widespread number of automobile casualties of today are very likely to result in lesions of the brain and cord. Several salient points made by Dr. Kahn were that the tendency today is to avoid large flap operations and to substitute therefor two small openings to relieve pressure from subdural hemorrhage; that great caution must be exercised in cases of compound fracture of the skull into the auditory apparatus not to syringe the ear and to consider all cases of hemorrhage from the auditory canal to be such unless otherwise proven; that shock must be treated first before any other treatment is attempted; that there is no great hurry about taking x-rays immediately after the admission of a patient with head or back injury; that morphin must not be administered to cases of head injury; that the use of hypertonic glucose solution in securing absorption of edema of brain tissue is justified and proper; that spinal puncture to relieve intracranial pressure in injuries is often life saving; that in cases of brain tumor in children the signs of same are usually vomiting and headache over a long period and surgery must be instituted early or blindness will result; that care must be taken in obtaining proper lateral rather than antero-posterior films of vertebral injury and that a good lateral of the seventh cervical may be obtained by traction below the shoulders and above the seventh

cervical, the films being placed above the shoulder in the curve of the neck; that the paralysis of fracture and cord injury increases in extent according to the level of the injury upward from the seventh to the third cervical vertebrae, from hand signs in the seventh to almost complete upper extremity involvement in the third; that the first lumbar is the most frequent site of lower spinal injury, in which case the symptoms are saddle anesthesia, incontinence, etc., and that the usual signs of tumor of the cord are severe pain lasting for months together with gradual weakness of the extremities progressing into a true paralysis.

The discussion was opened by Doctor Webster of Marlette, followed by Doctors Sites, Patterson, McKenzie, Fraser, DeGurse, Cooper, Burke and Armsbury, after which Doctor Kahn closed the discussion in the usual manner. Before adjournment the Society gave Doctor Kahn a rising vote of thanks for his splendid talk.

GEORGE M. KESL, *Secretary*.

### TUSCOLA COUNTY

The regular annual meeting of Tuscola County Medical Society was held at Caro Community Hospital, Caro, Mich., November 8, 1934.

The meeting was called to order by Dr. Johnson at 8:30 p. m. Minutes of the previous meeting were read and approved without discussion.

Communications from the State Society were read.

Report of Secretary. Motion was made by Dr. Salot and seconded by Dr. Hoffman that the report be accepted as read. Carried.

Report of Board of Censors. Drs. Race and Malloy presented the application of Dr. Gugino of Reese for membership. Elected.

The address of the retiring president was then given by Dr. O. G. Johnson of Mayville.

Election of officers for 1935 resulted as follows: President, Dr. Annie Stevens Rundell, Vassar; vice president, Dr. George Bates, Kingston; secretary, Dr. Lloyd L. Savage, Caro; delegate, Dr. O. G. Johnson, Mayville; alternate, Dr. A. S. Rundell, Vassar.

Report of Economics Committee was given by Chairman Dr. Hoffman. The recommendation of the committee was presented as a motion seconded by Dr. McKenzie, that the Medical Society accept the contract with the Board of Supervisors for medical care of the adult indigent. Carried. This is the third year of this contract.

Motion was made by Dr. MacRae and seconded by Dr. Salot that a committee of three be appointed to investigate the project for local hospitalization of juveniles under the Crippled Children's Act. Carried.

Motion was made by Dr. MacRae that all cases sent to Ann Arbor Hospital be reported to the Secretary for discussion at regular meetings. Seconded by Dr. Salot. Carried.

LLOYD L. SAVAGE, *Secretary*.

### MID-WINTER MEETING OF THE COUNCIL

The Council will convene on January 17, 1935, at 10:00 A. M., in the Statler Hotel in Detroit for its regular mid-winter session and for the transaction of such business as may properly come before the Council.

JULIUS POWER, *Chairman*

B. R. CORBUS, *Acting Secretary*

## WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, *President*, Kalamazoo.  
MRS. F. M. DOYLE, *Secretary*, Kalamazoo.

### NEW YEAR GREETING TO AUXILIARIES!

Hard on the heels of the Christmastide comes the New Year, anticipated by all, with confidence and hope.

We are beginning a New Year in our work for our Auxiliaries, a year in which I am hoping that we may grow by leaps and bounds and become more useful to our Medical Societies; that the cry will go out from all counties of the State not having an Auxiliary, urging us to help them organize one; that new contacts can be made, new Auxiliaries formed, new friendships developed and old ones cemented—nothing can take from us our privilege of service to our Medical Society.

May the New Year have in store for us a realization of our dreams, that every County Medical Society in the state will endorse and organize a Woman's Auxiliary.

There is nothing finer in life than the real friendships we make. Let us think not only of new friendships, but of what we are trying to accomplish in service and help to our Medical Societies, as auxiliaries.

I ask that all doctors' wives may join in our drive to increase our membership a hundred fold.

So, with my best wishes for a Happy, Prosperous and Fruitful New Year for all doctors' wives and their families—God bless them.

MRS. GUY LINCOLN KIEFER,  
*Chairman of State Organization*.

Adrian has requested an organization to be formed early in January.

Will others follow for February?

Dear Wives of Doctors:

As each chairman of standing committees is willing to carry on for another year, I think we as individuals should show our appreciation by hearty coöperation.

May we make the Auxiliary Department in the Journal the medium through which you can receive both National and State information.



We must first be organized one hundred per cent to live up to the expectation of the doctors who have confidence in us. This possibility is not so far away, as new groups are asking for information.

Medical Science has made great strides in a very short period of time. If it is something to boast about, it is certainly worthy of our efforts to coöperate, that these advances may be put into practice.

If we can only get the doctors' wives to read this department every month, the committee heads will prepare much valuable information for you.

Let us also invite any of you to send in an article of your own and we'll leave the subject to you.

Sincerely,

(MRS. F. T.) CHARLOTTE ANDREWS,  
*President, Woman's Auxiliary.*

---

*Standing Committee Chairmen for 1935*

Mrs. P. R. Urmston, Program, 1862 McKinley Ave., Bay City, Mich.

Mrs. H. M. Heitsch, Public Relations, 111 Oneida Road, Pontiac, Mich.

Mrs. W. H. Haughey, Hygeia, 40 Poplar St., Battle Creek, Mich.

Mrs. L. C. Harvie, Press and Publicity, 341 Brockway Place, Saginaw, Mich.

Mrs. Guy L. Kiefer, Organization, 148 West Grand River Ave., East Lansing, Mich.

Mrs. E. S. Peterson, Legislation, 506 S. Jackson St., Jackson, Mich.

Mrs. J. H. Dempster, Revision, 5761 Stanton Ave., Detroit, Mich.

---

**To the Woman's Auxiliary Members:**

Our new legislative year is drawing near and from the talks and suggestions given at the State Auxiliary meeting held in Battle Creek by the A. M. A. and State Medical Society presidents as well as the State Advisory Committee and others, the consensus of opinion pointed to the study of legislative matters as our chief objective for this year.

I am asking that each County Auxiliary appoint a legislative chairman to keep in touch with all legislation pertaining to and of interest to the medical profession. (This information may be secured through your Medical Legislative Chairman or by contacting your district Representative or Senator.) That each Auxiliary devote at least fifteen minutes time at each meeting to the discussion of the more important bills that your chairman has prepared for you. That you will be prepared to discuss medical legislation intelligently before outside organi-

zations, if called upon by your County Medical Society. Much harm has been done in the past by those same organizations voting for or against bills that they did not in the least understand.

Another suggestion coming from headquarters is that the Auxiliary try to have a representative as a member of other organizations to familiarize themselves with the activities of other groups and in this way we can be of assistance to our husbands in helping the public.

If you have not read Dr. Robb's article in the *State Medical Journal* of November, 1934, please do so and re-read it if you have already seen it. It will give you a much better outline of what our duties are than I could possibly do.

Your State President, Mrs. Andrews, and the other state officers are particularly alert to the probable legislation which will be introduced in the next Legislature and are desirous that each member acquaint herself with the above suggestions and render herself and her Society such service as is possible.

Please read your Journals.

MRS. E. S. PETERSON,  
*Chairman of Legislation.*

---

Please send all news articles, accounts of County Auxiliary meetings and clippings (for State Scrap Book) to Mrs. L. C. Harvie, Press Chairman, before the first of each month. This must be done if items are expected to be published in the following issue of the *JOURNAL*.

---

*Bay County.*—The Bay County fall activities started on November 14, with a 6:30 dinner held at the Duchess Tea Room, Bay City, twenty-four members attending. A short business session followed with Mrs. L. F. Foster, vice president, presiding. Mrs. Foster, who attended the State Convention as a delegate, gave an interesting report of the Battle Creek meetings.

---

*Saginaw County.*—Opening the year's program on subjects of interest to physicians' wives who wish to increase their understanding of community social and health agencies was a talk given by Dr. Frank A. Poole, city health officer, Monday evening, November 19, 1934. Dr. Poole spoke of attempts to bring about hygienic living in the community.

Dr. Poole opened his talk to fifty members of the Auxiliary with an outline of the commission plan of government. "The activities of the department of health are grouped under eight major headings," Dr. Poole declared. "They are general administration, which includes the division of Administration and division of Health Education; communicable disease control, child hygiene, public health nursing, food control, general sanitation and laboratory service."

A second speaker for the evening was Miss Louise Liskow, who explained the work of the



Junior League in its major project, the Community Center, in Saginaw's First Ward, and outlined other activities of the organization that were founded to promote an interest in social, economic, cultural, educational and civic conditions in the community and to give efficient and reliable volunteer service.

The program and business meeting took place after a dinner served at the home of Mrs. Robert Jaenichen, 906 Howard Street. Decorations in the home were in keeping with the holiday season, featuring red candles and attractive arrangements of vegetables.

During a social hour at the close of the program, bridge and anagrams were enjoyed with prizes for holders of high scores. Assisting the hostess were Mrs. W. H. Pickett and Mrs. Emil Richter.

*Jackson County.*—The regular meeting of the Women's Auxiliary to the Jackson County Medical Society was held on Tuesday evening, November 20, 1934, in the Jackson High School.

Miss Ester Iddles, head of the Home Economics department, had charge of the dinner served at 6:30 to thirty members of the Auxiliary. Following the dinner the members were entertained in the library.

Mrs. Glen Hicks and Mrs. L. J. Harris were in charge of the program. Various phases of high school life were brought to the members in a very interesting manner.

A double trio directed by Miss Edith Stone sang two numbers. Miss Edith King, librarian, gave an interesting talk concerning the library and its contents; later, her assistants conducted the auxiliary through the library. Another phase of high school life was presented by Miss Ruth Coolidge, dean of girls.

She said that the tendency of the human tongue is to exaggerate, and that out of the 1,800 students in high school, 1,600 are normally happy students. She emphasized the three Cs for schools rather than the three Rs. These are Character, Culture and Citizenship. In character, Miss Coolidge pointed out, the student must be fair-minded and loyal to his family, friends and school; in culture, he must find thoughtfulness, poise and social relationship; in citizenship, he must be able to submerge individual interest in the group.

She said that the aim of education is, that children should be able to fit happily into life. To do this more completely the school should be chosen to fit the child.

PAULINE M. VANSCHOICK, *Secretary.*

## COMMUNICATIONS

### ALLERGY IN EUROPEAN CENTERS

Editor of the Journal of the Michigan State Medical Society:

While I have seen a great deal of European medicine within recent weeks, the medical news which I can give you may not be of great interest. In Paris I spent a great deal of time with Drs. Richet and Pasteur Vallery Radot. The latter, a grandson of Pasteur, is one of the best known clinicians in Europe and is greatly interested in allergy. In his laboratory a well trained staff is carrying out a great deal of animal experimentation on anaphylaxis, supported by the Pasteur Institute.

There is considerably less asthma in Europe than in the United States, which is undoubtedly due to the absence of ragweed and possibly to the more frequent use of prophylactic serum. It is interesting to note how much better the patients respond to such

simple measures as non specific therapy, particularly x-ray treatment and peptone injections than in the countries where ragweed exists. The real hay, particularly orchard grass, is the most important hay fever excitant in Europe. The counts, however, do not run as high as they do in the United States. The fungus problem has been given a great deal of thought, particularly in northern Germany and the damp locations in Holland, with, however, very little practical outcome. Vasomotor rhinitis is much rarer in Germany and Switzerland, where much less face powder and other cosmetics are used than in France.

Dermatologists are thoroughly "allergy minded" in Europe, possibly more than they should be. Several times I have seen "allergic" skin lesions which would probably not be classified as such in the United States. There seems to be an abundance of contact dermatitis from furs, probably due to certain dyes. A new kind of contact lesion on the head and forehead is occasionally seen because they use blonde hair dyes in their great desire to become nordics. Eczema is still largely treated according to its morphological appearance, with less of a tendency toward an etiological approach than in the United States; at the same time our progress in the field of allergic skin diseases is highly recognized.

Since skin testing and desensitization are very seldom utilized on the continent, one has the feeling that there is something lacking in European allergy. On the whole, however, my visits at the various European centers of allergy have given me a different point of view from that which I gained through my recent visits with Boston, New York and Chicago colleagues.

GEORGE L. WALDBOTT.

Paris, November 25, 1934.

### A REQUEST OF THE DOCTOR IN BEHALF OF HIS WIFE

Editor of the Journal of the Michigan State Medical Society:

If the officers of the Auxiliary can make the wives of doctors JOURNAL conscious, so that they will really read it each month, we can send out much more intelligently the information we receive from national sources. We could not only familiarize our members but those wives, who for many reasons, can not belong.

Is it asking too much that a little slip be either stuck to the front page or just put in the front to beg the doctors to take the magazine home? I think if we could get them started to reading that page we can give them much that never reaches them in any other way.

MRS. F. T. ANDREWS,  
President, Woman's Auxiliary,  
Michigan State Medical Society.

Kalamazoo.

### RADIO MEDICAL BROADCAST

To the Editor:

The Radio Committee report was accepted by the Council of the Michigan State Medical Society with the recommendation that the work be continued and that further efforts be made to have other County Societies do broadcasting. We have several groups that are doing a good job. However, we feel that in those towns which have radio stations it should be the duty of the County Societies to try to get time in their local station for health talks. The A. M. A. is broadcasting in both of the national

hookups and has approved of the radio as an educational force.

As Chairman of the Radio Committee I am anxious to carry out our President's suggestion. Will the County Secretaries who read this notice take the opportunity of doing some missionary work along this line? The Radio Committee will be ready to supply talks and do anything in its power to aid in the work.

WILLIAM J. STAPLETON.

Detroit, Michigan.  
December 13, 1934.

## PLEASED WITH DECEMBER JOURNAL

To the Editor:

I want to congratulate you on the latest issue of the JOURNAL of the Michigan State Medical Society. The amount of scientific material contained in this issue is amazing. The high standard of the articles and the number of the same cannot be surpassed by any publication of this size. With kind regards and with appreciation of your efforts.

EMIL AMBERG.

Detroit, December 10, 1934.

## OBITUARY

### Dr. G. Carl Huber

Dr. G. Carl Huber, dean of the University of Michigan graduate school since 1927 and head of the Department of Anatomy, died on December the twenty-sixth at the University Hospital. Dr. Huber was born in Hoobly, India, on August 30, 1865. He was the son of the Rev. John and Mrs. John Huber, who were missionaries in India at the time. Dr. Huber's early education was obtained at Attica, New York. He attended the University of Michigan and was graduated in medicine in 1887, but remained at the University after his graduation as an assistant in Anatomy. Dr. Huber pursued graduate work at the University of Berlin in 1891-1892 and the University of Prague in 1895. He became head of the Department of Anatomy at the University in 1914 and on the death of the late Dr. Alfred H. Lloyd, Dr. Huber was chosen as his successor as dean of the graduate school. He was a member of almost every learned society to which scholarship makes its members eligible. Dr. Huber was married in 1893 to Lucy A. Parker of Ann Arbor, who survives him. He is also survived by three children, Mrs. L. H. Andrus of New York, and Drs. Carl Parker Huber and John Franklin Huber, both connected with the faculty of the University.

"Scholarly and pious persons, worthy of all respect, favor us with allocutions upon the sadness of the antagonism of science to their medieval way of thinking, which betray an ignorance of the first principles of scientific investigation, and an incapacity for understanding what a man of science means by veracity, and an unconsciousness of the weight of established scientific truths, which is almost comical."

—THOMAS HENRY HUXLEY.

## GENERAL NEWS AND ANNOUNCEMENTS

### ROENTGENOLOGISTS AND PATHOLOGISTS MEET

A joint meeting of the Michigan Association of Roentgenologists, Detroit Branch of the American Urological Association, Detroit Roentgen-Ray and Radium Society, and Michigan Society of Pathologists will be held Thursday, January 17, 1935, at 8:00 o'clock P. M. in Harper Hospital, Detroit, Michigan. The program is as follows:

#### Symposium on Tumors of the Urinary Tract

"Diagnosis of Tumors of the Urinary Tract"—Dr. B. H. Nichols, Cleveland, Ohio.

"Treatment of Tumors of the Urinary Tract, More Especially of Renal Tumors."—Dr. C. A. Waters, Baltimore, Maryland.

Pathologic Discussion—Dr. Frank W. Hartman, Detroit.

Diagnostic Discussion—Dr. Hans Jarre, Detroit.

Surgical Discussion—Dr. H. W. Plaggemeyer, Detroit.

On Friday morning, January 18, at 9:00 A. M. a Symposium on Malignancy will be presented at Harper Hospital. This will be conducted as the usual Friday Morning Conference of the Staff of Harper Hospital in conjunction with the Wayne County Medical Society, American Society for the Control of Cancer and Michigan Pathological Society.

#### Symposium on Malignancy

"Responsibilities and Opportunities of the Board of Health in Malignancy."—Dr. Henry F. Vaughan, Health Commissioner.

"Responsibilities and Opportunities of Medical Organizations in Malignancy."—Dr. O. A. Brines, Detroit.

"The Function of the National Society for the Control of Cancer."—Dr. Wellington Yates, Detroit, and Dr. F. L. Rector, New York.

"Pathologic Aspects of Malignancy."—Dr. P. F. Morse, Harper Hospital.

"Surgical Aspects of Malignancy"—Dr. George T. Pack, New York.

"Roentgenologic Aspects of Malignancy"—Dr. G. E. Pfahler, Philadelphia.

Demonstration of Cases with discussions—Dr. Pack and Dr. Pfahler.

For those interested, a technical demonstration will be given in the X-ray Department in the afternoon.

The program includes a Roentgen exhibit of Malignancy, with special reference to results of radiation treatment.

### A NEW WAX AMPULE FOR SILVER NITRATE SOLUTION USED IN PREVENTION OF OPHTHALMIA NEONATORUM

The Michigan Department of Health is beginning the distribution of a new ampule, developed in the Department during the last two years. The advantage of the new ampule is that in it the silver nitrate solution does not become acid and precipitate out. In the old type ampule the silver nitrate solution rapidly deteriorated, becoming very acid (pH 2.2) and leaving a deposit of black precipitate on the walls of the ampule.

Extensive search failed to reveal a satisfactory substitute for the ingredients in the old ampule. Study of the old ampule showed the beeswax to be



responsible for the deterioration of the silver nitrate. Attempts to modify the beeswax so as to prevent the deterioration were unsuccessful. Since silver nitrate was found to be very stable in contact with paraffin, a procedure for lining the ampules with paraffin was evolved and found to give a satisfactory and stable ampule. In the old ampule, silver nitrate solution became acid within a few days at room temperature; in the new ampule the solution retains the characteristics of a fresh preparation indefinitely.

The new ampule is shaped like a bullet. When used it should be punctured at the "nose" and squeezed in the middle to eject the silver nitrate. The new ampule may be used when cold but it will be easier to squeeze if warmed to room or body temperature before use.

### THE HIGHLAND PARK PHYSICIANS' CLUB

The program of the ninth annual clinic of the Highland Park Physicians' Club as published in the December number of this JOURNAL was carried out according to schedule. There was a total attendance of approximately four hundred doctors. The interest in the Clinic is manifested by the fact that the number of doctors remained throughout all sessions, showing the keen interest of the profession in what amounts to a day of intensive post-graduate instruction. This annual feature of the Highland Park Physicians' Club is distinguished by the fact that, since inauguration nine years ago, no clinician scheduled to speak has disappointed the committee. Over three hundred of the guests partook of the hospitality of the Highland Park General Hospital at luncheon. The day's clinic was concluded by a Subscription Dinner held at the Wayne County Medical Society club rooms. Dr. H. E. Northrup, president, acted as toastmaster when short addresses were delivered by Dr. W. J. Cassidy, president of the Wayne County Medical Society, Dr. J. H. Dempster, Dr. Edward J. Stieglitz of Chicago and Dr. Henry A. Luce.

Dr. John Carmack of Indiana, Professor of Otolaryngology, who addressed the Highland Park Physicians' Club Clinic on December the fifth, and Dr. Arthur M. Mendenhall, Professor of Obstetrics, who spoke on "Newer Things in Obstetrics," met with a tragic death on their return to Indiana by aeroplane after attending the clinic. Dr. Mendenhall's daughter, who was a journalist associated with a Richmond, Indiana, paper accompanied her father. On the return trip by plane an endeavor was made to land at Richmond, where the daughter was employed. The airport was not lighted so that in hunting a place to land the plane encountered a tree which tore off one of the wings and caused it to "nose" down an embankment where it caught fire. The impression was that none of them realized what had happened, since death must have been instantaneous. Dr. Mendenhall leaves a widow and two sons.

\* \* \*

Mr. William Burns, executive secretary of the Wayne County Medical Society, has been invited to address the Annual Secretaries' Conference of the Indiana State Medical Society, January 27, 1935. The Secretaries' Conference will be held at the Lincoln Hotel, Indianapolis. In a letter from executive secretary Hendricks to Mr. Burns he writes: "This year Albert G. Milbank, chairman of the Board of Trustees of the Milbank Memorial Fund, New York; Doctor Oliver J. Fay, chairman of the Board of Trustees of the Iowa State Medical Society; Dr. Harvey Cushing, chairman of the Advisory Board on Medicine of the Committee on Economic Security

appointed by the President, and you are invited as our guest speakers. We would like to have you speak for not more than thirty minutes upon the Detroit Plan."

\* \* \*

The officers of the Michigan Association of Roentgenologists for the ensuing year are: president, Dr. V. M. Moore, Grand Rapids; vice president, Dr. C. S. Davenport, Lansing; secretary-treasurer, Dr. S. W. Donaldson of Ann Arbor. The Committee on Economics is as follows: Drs. John B. Jackson, Kalamazoo, chairman; Leland Holly, Muskegon; Lawrence Reynolds, Detroit; Alden Williams, Grand Rapids; W. O. Upson, Battle Creek; Carleton B. Peirce, Ann Arbor. The Educational Committee consists of Drs. Rollin Stevens, Detroit, chairman; J. H. Dempster, Detroit; William Clift, Flint; Howard P. Doub, Detroit; F. J. Hodges, Ann Arbor; A. W. Crane, Kalamazoo. The association has a membership of sixty-eight.

\* \* \*

The Beaumont Foundation Lectures given annually under the auspices of the Wayne County Medical Society will be held on February the fourth and fifth at the Art Institute, Detroit. The lectures, two in number, will be given by Dr. Lewellys Franklin Barker of Baltimore, Maryland. Dr. Barker was at one time Professor of Medicine of the Johns Hopkins University. The lectures will deal with the subject of Heredity and Environment as Applied to the Handicapped Child. All members of the Michigan State Medical Society are cordially invited to attend these lectures.

The annual meeting of the Michigan Society of Pathologists met in Ann Arbor Saturday, December the eighth. The subject discussed was "Endometritis." The annual election of officers took place, resulting in the advancement of Dr. F. W. Hartman of Detroit to the presidency. Dr. G. L. Bond of Grand Rapids was made president-elect, and Dr. W. L. Brosius of Detroit, secretary. The next meeting will be held in February, 1935, together with that of the Detroit Roentgen Ray Society.

\* \* \*

The *Colorado Labor Advocate* contains a tribute to Dr. Newton Wiest of Denver, who has completed a half century of practice. Dr. Wiest was born in New York, eighty-one years ago. He moved with his family to Pontiac, Michigan, where he received his early education, after which he attended the Detroit College of Medicine in 1884. The doctor has been in practice ever since, devoting his major time to obstetrics.

\* \* \*

Dr. Frederick J. Novy has resigned his position as Dean of the Medical School at the University of Michigan as well as Professor of Bacteriology and director of hygienic laboratories of the University. Dr. Novy's period of service extends over forty-eight and a half years. His resignation is due to the fact that he has reached the retirement age of seventy. See editorial, page 39.

\* \* \*

Though a bit late, we have just learned that on September 3, 1934, Dr. William A. LeMire of Escanaba, Secretary of the Delta County Medical Society, was married to Miss Margaret Halligan, daughter of Dr. and Mrs. R. S. Halligan of Flint. We extend congratulations.

\* \* \*

To Dr. David Sugar, editor of the *Detroit Medical News*, is extended the sympathy of his numerous friends in the medical profession over the death of his mother on December the fourteenth.



## THE DOCTOR'S LIBRARY

*Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.*

**RULES FOR RECOVERY FROM PULMONARY TUBERCULOSIS.** A Layman's Handbook of Treatment by Lawrason Brown, M.D., Saranac Lake, New York. Sixth Edition, thoroughly revised. Price, \$1.75. Lea and Febiger, Philadelphia, 1934.

Perhaps no other disease requires the intelligent coöperation of the patient to a greater extent in its treatment than tuberculosis. In fact, successful management of such cases calls for a clear understanding by the patient of his condition, including his physical limitations, so that he may have as much freedom as possible within those limitations. The contents of Dr. Brown's little book include well seasoned advice on fresh air, rest, diet, food, sleep, climate and twenty-five other topics. The fact that a sixth edition has been called for indicates the reception former editions have met with.

**MINOR SURGERY IN GENERAL PRACTICE.** By W. Travis Gibb, M.D., Consulting Surgeon, City Hospital and Central and Neurological Hospitals; Formerly Attending Surgeon Workhouse and Penitentiary Hospitals and Hospital for the Aged and Infirm, New York, N. Y. 429 Pages. 148 illustrations. Price \$5.00. Paul B. Hoeber, Inc., New York, 1934.

This is the first of a series of manuals for the general practitioner of whose work minor surgery constitutes a very important part. To the graduate entering upon the practice of medicine this work will be found invaluable and to the general practitioner with years of experience it will come as a means of checking up his own methods inasmuch as the work is presumed to embody the results of the best present-day methods. Among the subjects dealt with are Shock, Anesthesia, Hemorrhage, Surgical Infections, Accidental Wounds, Fractures and Dislocations, to mention only a few. The chapter on Radiotherapy gives the reader some idea of the indications and limitations of this method of treatment which, however, should be left to the physician specializing in x-ray and radium therapy.

**THAT HEART OF YOURS.** By S. Calvin Smith, M.D., Sc.D., 200 pages, three illustrations in color, and three in black and white. Price \$2.00. Philadelphia: J. B. Lippincott Company, 1934.

Many books, seeking to make one "take stock of one's physical self" have appeared during the last five years. Dr. Smith's book, "That Heart of Yours," is most timely, due to the great amount of attention given in the lay press and "health columns" to that "great American disease—angina pectoris and arteriosclerosis." Truly the book is a message "of optimism," telling in simple language all about the heart in illness and in health. With the newer understanding of heart affections and with the recent advance of modern methods of study, the once prevalent dread, horror and hopelessness of heart impairment have beaten a hasty retreat and given place to encouragement, confidence and optimism for every "heart afflicted." This little book of 200 pages summarizes present day knowledge of cardiology and should prove an excellent supplement to the information given by the physician to the heart patient, "when time permits and the patient is in a receptive mood."

J. S. B.

**DEFINITE DIAGNOSIS IN GENERAL PRACTICE.** By W. L. Kitchens, M.D. With a Foreword by John H. Musser, B.S., M.D., F.A.C.P., Professor of Medicine, in The Tulane University of Louisiana School of Medicine. Large Octavo of 1,000 pages. Philadelphia and London: W. B. Saunders Company, 1934. Cloth, \$10.00 net.

William Osler has said, "To practice Medicine without books is to sail an uncharted sea; without patients is never to have sailed at all." With a given patient, and Dr. Kitchens' book as a guide, one could safely attempt a journey through the treacherous shoals between the Scylla of observation and the Charybdis of deduction, and arrive at the port of satisfactory diagnosis. That the author's threefold purpose—to provide a source of quick reference, to simplify the making of a differential diagnosis, to offer an effective means of applying, the "elimination" or "selective" method of diagnosis—has been met, is evident with brief use of the book. No attempt has been made to evaluate, through recital of symptoms any of the rare or "not often met with diseases" and the number of symptoms of definite diagnostic significance has been limited to 506 in the 407 diseases listed. To the busy practitioner, the book should prove a boon in the saving of time, referring to monographs and texts. To the teacher, a ready reference to the essentials of diagnosis. To the recent graduate, a recital and valuable "jog to the memory" of all that has been afforded him, in didactic lectures and bedside teaching. The book is a volume of a 1,000 pages, of easy reading print, with wide margins and liberal space for additional notes to be added as the experience of the reader may dictate.

J. S. B.

**INTERNAL MEDICINE, ITS THEORY AND PRACTICE, IN CONTRIBUTIONS BY AMERICAN AUTHORS.** Edited by John H. Musser, B.S., M.D., F.A.C.P., Professor of Medicine in the Tulane University of Louisiana School of Medicine; Senior Visiting Physician to the Charity Hospital, New Orleans, Louisiana. Second Edition, thoroughly revised. Illustrated. Lea & Febiger, Philadelphia, 1934.

This is a composite work by twenty-six contributors, each of whom is a professor of internal medicine in a leading medical college in this country. Each contributor has been selected for his special knowledge and ability in the department assigned to him. As the reviewer has mentioned, each is a teacher and after all when it comes to medicine and surgery those works that actually teach are of greatest value. In this second edition the collaborators have undertaken extensive revision of the various sections for which they are responsible. The work is a complete single volume treatise on internal medicine, adequately indexed as a handy work of reference. The reader who is disposed to go more deeply into the various subjects is provided with numerous references at the conclusion of each chapter. The sections on treatment are as a rule frank in the assertion where medical treatment is effective and where not.

### FOXY FATHER

A father said: "Now, son, start saving the pennies and put them in this yellow box, and when you get five pennies give them to me and I'll give you a nickel and you can put that in this blue box; then, when you get five nickels give them to me and I'll get you a quarter and you can put it in this red box."

Seventeen years later the boy discovered that the red box was the gas meter.—Anon.

## OF GENERAL MEDICAL AND SURGICAL INTEREST

### CYCLOPROPANE ANESTHESIA

Ralph M. Walters and Erwin R. Schmidt, Madison, Wis., state that induction with cyclopropane has appeared to be quite as pleasant as is that with nitrous oxide, though less rapid with the technic which they have used. Sensations of "ringing in the ears," "fullness" in the head and other unpleasant experiences seem less frequent than with other agents. This is attributed to the complete avoidance of oxygen want from the beginning of inhalation. The ability to induce deep anesthesia without respiratory stimulation, irritation or the possible necessity of producing oxygen want gives the anesthetist a feeling of safety and assurance not experienced with any other agent. Recovery has seemed to be more frequently accompanied by nausea than following nitrous oxide and ethylene. The observation has been made that severe nausea or nausea and emesis have more often followed minor administrations to ambulatory patients than to patients hospitalized for major surgery. Therefore nitrous oxide is considered the agent of choice for minor cases of short duration when suitable. For major surgery the incidence of nausea and emesis is less pronounced than with the other agents in common use. As a preliminary to ether anesthesia, cyclopropane has given satisfaction. The induction is pleasant and the tolerance to ether vapor in the presence of a high oxygen content of the inspired gas makes for a smoother and quicker induction. The induction of endotracheal anesthesia is easier with cyclopropane than with ether or ethylene. Endotracheal cyclopropane, with large tubes for "to-and-fro" breathing, is satisfactory for brain, dental and many abdominal cases as well as for plastic work about the head. Except for central nerve surgery, morphine and scopolamine have been used as premedication. In performing thoracoplasty, rib resection for empyema and other operations within or outside the chest, the extremely quiet respiration, ample oxygen supply and quick recovery of the cough reflex have appeared to the anesthetist to offer ideal conditions for this work. Ease of intubation when needed is an added advantage. In the lower part of the abdomen, including all gynecologic procedures through an abdominal incision, satisfaction has been complete for surgeon and anesthetist. For upper abdominal work noticeable defect in the relaxation has been evident in many cases. In the strong muscular type, the rectus muscles are relaxed and breathing is quiet without "forcing" the anesthesia. However, during closure of the wound, the surgeon finds the peritoneal margins retracted under the recti, sometimes causing difficulty in closure. Nitrous oxide is still preferred in the early stages of labor in all cases and throughout in most. A small amount of cyclopropane added to nitrous oxide during second stage pains has been found useful in adding potency for the occasional woman the severity of whose pains is too great to be completely relieved by nitrous oxide. In forceps delivery, version and extraction, and cesarean section, cyclopropane has proved immediately

satisfactory in the few cases in which it has been used. (*Journal A. M. A.*, Sept. 29, 1934.)

### PRESENT STATUS OF RADIATION IN TREATMENT OF CANCER

Arthur C. Christie, Washington, D. C., points out that since the cause of cancer remains undiscovered, its treatment is still empirical. This is true of radiation as of other methods. It is thoroughly established that the beneficial effects of radiation on malignant growths are due not only to the direct changes produced in the growth itself but equally to the reaction of the surrounding healthy tissues. Methods have been devised in the past few years which constitute an important advance in respect to proper and efficient dosage. Except in superficial cancers in which it is possible to destroy the growth by the caustic effect of radiation, the single massive dose method has been practically abandoned. Progress has taken place also in methods of radium therapy, especially in respect to interstitial radiation. Improvements that have been made in roentgen apparatus in the years immediately past are of importance equal to those made in technic. In an attempt to appraise the present position of radiation in malignant disease, the fact must be kept in mind that results up to the present moment have been obtained over a period of time during which the technic of treatment has been constantly changing. This has been due to new discoveries and inventions of apparatus and to a constantly widening experience. Because of results obtained in large numbers of primarily inoperable and seemingly hopeless conditions and in recurrences after operation, and because of improvement in results when used in addition to surgery, the attitude toward radiation has changed radically during the past three or four years. Under such circumstances of rapidly improving apparatus and technic and with an almost revolutionary change in the type of cases coming under treatment, statistical evaluation of past results has no absolute value. It serves only to indicate trends and possibilities and to point out probable lines of progress. One important consideration in radiotherapy of skin cancer and cancer in any other part of the body is that practically all that is to be done should be accomplished in the first series of treatments. The possibilities of reaction in the surrounding tissues may never again be so favorable after those tissues have suffered the changes produced by irradiation. For this reason it is necessary to plan the initial treatment with the greatest attention to detail and to administer it with meticulous care. It must be realized more fully that radiation therapy of cancer to be efficient is a radical procedure. In spite of the large unconquered field, there is ground for much satisfaction in the improvement that has taken place in the treatment of cancer by irradiation in the years immediately past. The proportion of cures in a number of the most dangerous of the epidermoid cancers has been increased markedly and some that were formerly entirely hopeless now show a substantial number of cures. There is hope also that improvements in roentgen apparatus which permit a better relation between destruction of malignant cells and effects on normal tissues will bring an additional number of cancer cases into the curable range. (*Journal A. M. A.*, Sept. 29, 1934.)



# THE JOURNAL

OF THE

*Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOL. 34

FEBRUARY, 1935

No. 2

## AN APPRAISAL OF THE METHODS OF TREATING PNEUMONIA\*

CYRUS C. STURGIS, M.D.†  
ANN ARBOR, MICHIGAN

Lobar pneumonia is always a serious disease and demands all the resources of medical knowledge and the keenest alertness on the part of the attending physician in any case in order to combat it successfully. Despite the fact that the disease is widespread and is a prominent cause of death in the temperate zone, where it outranks all infections, except tuberculosis, in this respect, there still remains a perennial discussion concerning the value of various types of treatment. This is to be expected chiefly because of three reasons:

(1) While true lobar pneumonia is almost always due to the pneumococcus, it must be remembered that there are many strains of this organism which vary considerably in virulence. It is also true that the mortality from the different strains is not the same in all localities and that it changes from one year to the next.

(2) The most disturbing factor which makes authentic deductions regarding treatment difficult, is the tendency of the disease to terminate by a spontaneous crisis which is often sudden and dramatic. If any type of medication has been given within a short time prior to this event, it is a very easy matter to ascribe the recovery erroneously to the therapeutic agent which was employed rather than the natural resistance of

the body. The only conclusive statements which are acceptable, therefore, concerning the value of any given form of treatment, must be based upon a long series of cases over a period of several years in whom the pneumococcus type has been determined. Moreover, in appraising the therapeutic effectiveness of any treatment under trial it should be applied only to every alternate case in order that the remaining ones may be used for comparison as a control series.

(3) Furthermore, other inconstant factors such as age, alcoholism, the length of time after the onset before treatment is applied, and the efficiency with which it is administered must be taken into consideration.

As an outline of what is to follow let me say that during the past fifteen years sufficient data have accumulated to permit us to make definite conclusions concerning the value of the following therapeutic agents in the disease.

- (1) Anti-pneumococcus serum
- (2) Digitalis
- (3) Oxygen
- (4) Morphine

(5) A miscellaneous group of drugs which are alleged to be of specific or symptomatic value.

\*From the Department of Internal Medicine, University Hospital, University of Michigan, Ann Arbor, Mich. Read before the Medical Section of the 114th annual meeting of the Michigan State Medical Society, Battle Creek, Mich., September 13 and 14, 1934.

†Dr. Sturgis obtained the B.S. degree at the University of Washington; M.D., Johns Hopkins University, 1917. He is Professor of Medicine, Director Thomas Henry Simpson Memorial Institute for Medical Research; Director, Department of Internal Medicine, University Hospital, University of Michigan. His society memberships include: Association of American Physicians; American College of Physicians; American Society for Clinical Investigation (Vice President); Central Society for Clinical Research (President); American Association for the Advancement of Science (Vice President, Medical Section); American Climatological and Chemical Association; American Medical Association; Wash-tenaw County Medical Society (Vice President).



### The Value of Anti-Pneumococcus Serum

The earliest use of anti-serum failed because it was not known that the pneumococcus was of various types and that the anti-serum of any given type had no protective power against the other varieties of the organism. Later they were grouped into four types, designated as I, II, III and IV and an effort was made to produce a specific anti-serum for each of the groups. Serum which had some therapeutic value was prepared for Group I, and possibly Group II, by immunizing horses with these two varieties of the pneumococcus. It has not been possible to the present day to produce a therapeutically active serum for Group III or IV. It has been known since the earliest attempts to group the organism that the latter group is made up of a number of strains, and only recently 29 of these have been identified. Preliminary reports indicate that active anti-sera may be prepared for various members of this group in the future. The original type of anti-pneumococcus serum, however, was unsatisfactory because its therapeutic effect was not striking and in addition it produced an immediate as well as a delayed serum reaction in a very large percentage of cases and these were often associated with untoward symptoms of considerable severity.

In 1924, however, Felton<sup>8</sup> improved the method of preparing the serum and as a result a potent and very satisfactory product is now commercially available for use in patients who have pneumonia in which the Type I and II pneumococcus is the cause of the disease. The improved preparation is 5 to 10 times as concentrated as the original serum and yet it contains a relatively small amount of protein. As a result it is much more effective than the original serum and reactions following its use occur in only about 10 per cent of the cases.

Practically all observers who have studied large groups of carefully controlled cases during the past few years agree that the efficient use of Felton's anti-pneumococcus serum will reduce the death rate in Type I pneumonia from 30 per cent in the untreated cases to about 15 per cent for those who receive serum. Likewise there is a reduction of from 40 per cent mortality in the untreated cases to about 20 per cent in the Type II serum treated cases. One very important point which influences the statistics

concerning the effect of the serum treatment is the relation between the time when it is instituted and the onset of the disease. There is very conclusive evidence available which indicates that the serum treatment is much more effective when given within 96 hours after the initial symptoms of the disease have appeared. As Finland<sup>9</sup> states, "After the disease has lasted for 96 hours it is very difficult to gauge the effects, inasmuch as spontaneous recovery may occur in some patients after the fourth day. When treated within ninety-six hours the mortality in Type I cases is about 10 per cent, and in Type II cases 15 per cent."

It must be admitted that until recently all of the reports which indicate the favorable effect from this form of treatment have come from large hospitals which have every form of equipment to deal with the pneumonia problem. The question arises, therefore, can this effective type of therapy be made available to the practitioners so that the large group of patients who are treated in their homes may have the benefit of it with equally good results? The answer to this is to be found in an article by Heffron and Anderson,<sup>10</sup> who report the results obtained by 63 collaborating physicians who carried out the treatment in 15 areas of the State of Massachusetts, each area centering about a hospital. These physicians were given special instructions in anti-pneumococcus serum therapy by means of a one day course offered in the Harvard School of Post Graduate Medical Education and each institution of the fifteen areas had technicians who had been given special training in sputum typing for one week. During a period of two years 421 cases of pneumonia were observed by these physicians. Of these cases, there were 188 who had Type I pneumonia and were treated with Felton's anti-serum. This group had a mortality rate of 10.6 per cent as compared to a rate of 25.9 per cent of eighty-five untreated cases of the same type. This demonstration indicates very clearly that any practitioner with very little special training can apply this type of treatment in such an efficient manner that, in Type I pneumonia at least, the mortality rate may be reduced more than one-half.

It should be emphasized that when certain circumstances prevail the initial dose of the serum may be given before the type of the pneumococcus which is responsible for the

disease is determined. This is logical in certain patients who are critically ill when first seen and it appears urgent to begin the treatment at the earliest possible moment and thereby avoid the delay of some hours which is required in order to type the organism. These patients should be given an initial dose of a polyvalent anti-pneumococcus serum which is now available and is potent against Type I and II pneumococcus infections. Inasmuch as these two groups are responsible for over 50 per cent of all pneumococcus infections of the lungs, the chances are more than equal that an effective type of treatment will be applied. If subsequent typing of the sputum shows that the etiological agent belongs to one of the other groups, the serum treatment should, of course, be discontinued. This plan of therapy is well worth while in certain patients as the chances of causing harmful effects are very slight and the advantages to be gained by avoiding a delay in the serum treatment are considerable.

It is not my intention to consider the practical details of the serum treatment, as a number of excellent articles dealing with this type of therapy have appeared within the past two years.<sup>3,4</sup> I should like, however, at this time to emphasize several points in regard to it. First, the serum should be given early in the course of the disease; second, it should not be administered without preliminary tests to determine if the patient is sensitive to this type of serum; and third, large amounts should be given within the first forty-eight hours of treatment.

### Pneumonia Vaccine

Brief reference should be made to the treatment of pneumonia by means of vaccines. The most optimistic supporter of this form of treatment is Alexander Lambert<sup>12</sup> who in 1926 gave his report dealing with the results obtained at Bellevue Hospital with 474 vaccinated patients and 482 controls over a period of eight years. The vaccine used contained 100,000,000 mixed pneumococci per c.c. with the addition of influenza bacilli, streptococci, staphylococci and micrococcus catarrhalis. The dosage used was 1.5 c.c. intramuscularly every 6 hours. He reports that 24 per cent of the patients who were treated with vaccine died whereas there was a mortality of 44 per cent in the control group. The most striking results are

shown in the group who were treated within forty-eight hours after the onset of the disease. In ninety-seven patients who were in this group there was a mortality rate of 9.3 per cent, whereas in a similar number of patients in the control group there was a fatal termination of 44 per cent of the cases. Lambert stated that the patients whom he "treated were the type in the big City Hospital of Bellevue through eight years, in which the old and young, weak and strong, the alcoholic and non-alcoholic were taken alternately as they came in, with no choice between patients." He does not state the type of pneumonia from which his patients were suffering. I am not an advocate of the vaccine therapy of pneumonia because I have not had sufficient first hand experience with it. Moreover, if a patient has a pneumonia due to a specific organism, it seems logical to assume that this infection should be an adequate stimulus to antibody formation without the aid of vaccine. Nevertheless the difference between the control and the treated group in this apparently well controlled series is so striking that this form of treatment should be investigated further and given careful consideration.

### Oxygen Therapy

For the past twelve years oxygen therapy has been given a thorough trial as an adjunct in the treatment of pneumonia and we should now be in a position to evaluate its usefulness. Potts<sup>13</sup> has recently written a very excellent review of the present status of oxygen therapy in various diseases, including pneumonia. The logical basis for this form of treatment is as follows: It is known that normally the arterial blood is saturated with oxygen to about 95 per cent of its total capacity. It seems safe to say that all patients with pneumonia have some deficiency in the oxygen saturation of the arterial blood at some time during the course of the disease. This may vary from a very slight decrease to a saturation of only 60 per cent or lower in critically ill patients. While the deficiency of oxygen in the arterial blood, or anoxemia as it is called, and cyanosis are not synonymous, nevertheless, the degree of cyanosis and oxygen saturation of the arterial blood parallel each other very closely. For example, if there is a slight cyanosis the oxygen saturation will be about 88 per cent and with a marked cyano-



sis the oxygen saturation will be as low as 75 per cent. The degree of cyanosis in a patient with pneumonia, therefore, parallels the amount of anoxemia, and is the best clinical guide for the inauguration of oxygen therapy. There is abundant proof that anoxemia occurs frequently in pneumonia and it has been demonstrated repeatedly by clinical and laboratory observations that it may be eliminated by the proper oxygen therapy. The beneficial effects of oxygen therapy in pneumonia are shown by the following changes:

- (1) The patient is more comfortable as a result of quieter breathing.

- (2) The tachycardia is lessened and frequently there is a drop in body temperature and a slowing of the respiratory rate.

- (3) The arterial saturation is increased and the cyanosis disappears.

- (4) There is every reason to believe that life is prolonged and a longer period is thereby given for immunity processes to develop.

If oxygen therapy is to be used it is essential that it should be instituted early in the course of the disease at a time when the earliest evidence of cyanosis appears. Furthermore, it should be continued for some time after it has completely disappeared. The exact cause of the anoxemia is probably a combination of factors, the more important of which are rapid, shallow breathing, mechanical interference by the exudate in the alveoli; the failure of the alveolar cells to function as a result of edema and "toxic" influences, and interference with the circulation within the capillary walls as the result of plugging with fibrin. According to Barach<sup>1,2</sup> any method of oxygen therapy which provides a concentration of oxygen for inhalation of between 40 and 60 per cent is satisfactory. This same observer, Barach, states that the nasal catheter method, which is simple and requires a minimum amount of apparatus, provides a concentration of about 35 per cent. If the method is the only one available it should be used when oxygen therapy is indicated. The most satisfactory and practical way, however, is to apply this form of treatment by means of an oxygen tent which provides a cooled atmosphere with a concentration of about 50 per cent of oxygen. Ordinarily the carbon dioxide which the patient expires in the tent is removed by means of soda lime, but if one

ascribes to the views of Henderson<sup>11</sup> that an increase in carbon dioxide is desirable in the treatment of lobar pneumonia as it stimulates deeper breathing, the removal of the soda lime from the apparatus permits an increased concentration of the gas. It is difficult to state how valuable carbon dioxide is in the treatment of lobar pneumonia, but at present it appears that it will be a valuable addition to oxygen therapy.

### Digitalis in Pneumonia

For many years there has been a controversy among the members of the profession concerning the indications for the use of digitalis in patients with lobar pneumonia. In 1916 Cohn<sup>9</sup> of the Rockefeller Institute, after a careful study of the effects of digitalis on the heart in this condition, concluded that the drug was at least harmless and might be of considerable value in certain cases. His statement led to the routine administration of the drug to all patients with this disease in many clinics. After several years experience, however, this practice was modified by many physicians and it was given only in those pneumonia patients who were past fifty years of age, or to those who coincidentally had a chronic congestive failure.

Within recent years two papers have appeared which have definitely settled in my mind the inadvisability of the routine administration of digitalis to these patients. In 1930 Wyckoff, DuBois and Woodruff<sup>15</sup> reported the results of digitalis medication in a large group of patients who were studied at several of the New York hospitals. Of the 742 patients who were observed, about one-half of them received the drug and the other half served as a control group. They reported a 7.7 per cent greater mortality in the group of patients who were digitalized. It was concluded from their observations that digitalis may be of considerable value in an occasional patient who has auricular fibrillation or flutter, but in general they state that "the routine giving of digitalis to patients with lobar pneumonia is dangerous."

These clinical deductions are in accord with the recent work of Cohn and his collaborators,<sup>6</sup> who have reported observations which greatly clarify the action of digitalis on the heart. In addition to the depression of conduction time in the bundle of His which it causes, the drug has two other main effects. They are (1) to decrease the size



of the heart, and (2) to increase the strength of the contractions. In patients with a heart of normal size, and this is usually the case in lobar pneumonia, the effect of digitalis is to decrease the volume output of the heart. This is because the heart is contracted to an inefficient size and although the strength of the shortened stroke is increased, the result is that the volume output of the heart falls. If digitalis in full therapeutic doses is given to the usual patient with pneumonia, therefore, it will cause a decrease in cardiac output and a resultant deleterious effect. On the other hand, if a patient has a hypertrophied heart, the drug causes it to decrease to a more efficient size and this, with the increase in the strength of the stroke, causes an increase in the cardiac output. The indication for digitalis therapy in patients with lobar pneumonia, therefore, is a heart which is larger than normal, or, in the presence of auricular fibrillation or auricular flutter, and these two types of arrhythmia are estimated to occur in only about five per cent of all cases.

Warfield<sup>14</sup> has recently emphasized that the circulatory failure which occurs in pneumonia is peripheral rather than in the heart itself, and I am inclined to agree with his viewpoint. He advocates the use of strychnine sulphate, 1/20 to 1/10 grain every one to three hours, and states that his results have been good. I have had only a slight experience with this drug and, therefore, am unable to recommend it from my own experience. Moreover, there does not seem to be a logical basis from a pharmacological standpoint for the use of this drug in pneumonia.

#### Miscellaneous Drugs in the Treatment of Pneumonia

In general it may be said that the only drugs which I have found to be of service in the treatment of lobar pneumonia are those which secure rest for the patient and relieve pain. Quinine and its derivatives, Optochin hydrochloride and Optochin Base (Numoquin Base) have their enthusiastic advocates and it is true that quinine is highly bactericidal for the pneumococcus *in vitro*. There is no proof, however, that it has this action in the body and there has been no convincing evidence derived from the study of the effects of these drugs on a large, well controlled group of patients with

pneumonia, which would indicate that they are effective. Quinine is at least harmless and there is no contraindication to its use in the treatment of this condition, provided the proper attention is given to those patients who have an idiosyncrasy to the drug. The other quinine derivatives, however, should not be employed because serious toxic effects such as a permanent impairment of vision may result.

Of greatest value in the treatment of this disease are the hypnotic drugs, such as the barbituric acid derivatives, either alone or in combination with codein. If these preparations fail to secure rest, I do not hesitate to turn to the judicious use of morphine. For years there has been a divided opinion in the medical profession concerning the use of the latter in patients with this condition. Many have contended that full doses of morphine always have a harmful effect because they depress the respiration, decrease the minute volume of inspired air, and increase abdominal distension. More recent studies<sup>7</sup> demonstrate that morphine will increase cyanosis and will also diminish the oxygen saturation of the arterial blood. It is, therefore, a drug which should be used with caution. On the other hand, the combination of various hypnotic drugs such as barbital, luminal and sodium amytal with codein is not adequate in all cases to control pain and secure rest. A decision must then be made in each individual case, either to give morphine and secure rest regardless of the harmful effects of the drug, or to avoid its untoward effects by withholding it and sacrificing rest and sleep. Under these circumstances, in my experience, the decision has usually been in favor of morphine. It is my conclusion, therefore, that morphine is indispensable in some cases but it should be used only when other sedatives and hypnotics fail, and then with great discrimination. The untoward effects of morphine are sometimes very slight, but if cyanosis is marked and breathing labored, its depressing effect on the respirations may be minimized by administering 7½ grains of caffein-sodiumbenzoate intramuscularly or by placing the patient in an oxygen tent in which a five per cent carbon dioxide mixture is maintained as a stimulant to the respirations.

In conclusion, let me say that I have made no attempt to give a complete outline of the practical treatment of pneumonia and I real-

ize that many important phases of therapy have not been mentioned. It has been my endeavor to discuss several aspects of the treatment about which there has been considerable controversy. Careful observation of a large group of patients has, in my opinion, definitely settled these questions as I have previously indicated.

### References

1. BARACH, A. L.: Methods and results of oxygen treatment in pneumonia. *Arch. Int. Med.*, 37:186, (Feb.) 1926.
2. Barach, A. L.: Administration of oxygen by nasal catheter. *Jour. A. M. A.*, 93:1550, (Nov.) 1929.
3. Cecil, R. L., and Sutliff, W. D.: The treatment of lobar pneumonia with concentrated antipneumococcus serum. *Jour. A. M. A.*, 91:2-35, (Dec. 29) 1928.
4. Cecil, R. L., and Plummer, N.: Pneumococcus Type I Pneumonia, *Jour. A. M. A.*, 95:1547, (Nov. 22) 1930; Pneumococcus Type II Pneumonia, *Jour. A. M. A.*, 98:779, (March 5) 1932.
5. Cohn, A. E.: The use of digitalis in pneumonia. *New York Med. Jour.*, 105:234, (Feb.) 1917.
6. Cohn, Alfred E., and Stewart, Harold J.: The relation between cardiac size and cardiac output per minute following the administration of digitalis in dogs in which the heart is enlarged. *Jour. Clin. Investigation*, 6:79, (Aug.) 1928.
7. Davis, John Staige, Jr.: The effect of morphine on the respiration in pneumonia. *Jour. Clin. Investigation*, 6:187, (Oct.) 1928.
8. Felton, L. D.: A study of the isolation and concentration of the specific antibodies of antipneumococcus sera. *Boston Med. and Surg. Jour.*, 190:819, (May 15) 1924.
9. Finland, Maxwell: The rationale and practical aspects of serum treatment in pneumonia. *International Clinics* 4 (43d series): 45, (Dec.) 1933.
10. Heffron, Roderick, and Anderson, Gaylord W.: Two years' study of lobar pneumonia in Massachusetts. *Jour. A. M. A.*, 101:286, (Oct.) 1933.
11. Henderson, Y.: Reasons for use of carbon dioxide with oxygen in treatment of pneumonia. *New Eng. Jour. Med.*, 206:151, 1932.
12. Lambert, Alexander: Some effects of vaccines on antibodies in pneumonia. *Trans. Assoc. Amer. Phys.*, 48:73, 1933.
13. Potts, W. H.: Oxygen therapy—A critical résumé. *Am. Jour. Med. Sci.*, 184:616, (Sept.) 1932.
14. Warfield, L. M.: The question of the failing heart in acute infections. Presented before the Central Society for Clinical Research, October, 1933.
15. Wyckoff, John, Du Bois, Eugene F., and Woodruff, I. Ogden: The therapeutic value of digitalis in pneumonia. *Jour. A. M. A.*, 95:1243, (Oct. 25) 1930.

## THE TREATMENT OF FACIAL WOUNDS DUE TO MOTOR ACCIDENTS\*

CLAIRE L. STRAITH, M.D.†  
DETROIT, MICHIGAN

The present annual toll of more than a million victims injured in motor accidents in this country entitles this surgical problem to our best thought and skill. Facial injuries are sustained in a large proportion of these accidents. A resulting ugly facial scar may ruin a man or woman's social and business ambitions, injure a hospital's reputation and have more far-reaching effects than generally considered. The great increase in very severe facial injuries seems to be due, largely, to three causes in particular:

(1) The great increase in travelling speed.

(2) The increase of 100 per cent to 300 per cent in intoxicated drivers.

(3) The low seats and high instrument boards of the modern automobile, against which the face of the guest passenger is dashed in case of accident.

For convenience, I propose to consider the treatment in three phases: First, the skin wounds; second, fractured facial bones; and third, the subsequent correction of the deformities produced by such crushing injuries.

Skin wounds may vary from slight bruises to multiple lacerations or actual severance of large skin areas. Lacerations are common and are often thoughtlessly and hurriedly treated by doctor or interne with little regard for the possible after effect on the patient. Carrell has shown that small

particles of foreign material and blood clots in a wound greatly increase the possibility of infection. Therefore, a thorough wound cleaning and hemostasis is essential and, as a further precaution, drainage should be provided in deep wounds.

*Suturing.*—Heavy sutures, skin clips, et cetera, have no place in facial surgery. The edges of each facial wound should be meticulously straightened and sutured with fine materials such as horsehair in a manner so that the edges of the wound are brought in exact union—not simply approximated. In my hands, subcuticular stitches produce the most ideal results. If interrupted sutures are used, they should be removed in from thirty-six to forty-eight hours if possible.

Actual skin losses should be replaced as early as possible. Skin grafts should be of a color and texture which matches the face. Small grafts can be obtained from the upper eyelid or back of the ear without leaving

\*Read before the 114th Annual Meeting of the Michigan State Medical Society, Battle Creek, Sept. 13, 1934.

†For professional note see *Journal M.S.M.S.*, January, 1932.





Fig. 1 (left). Deep forehead laceration. The wound was cleansed thoroughly and the edges meticulously straightened. Deep structures were approximated with chromic 000 catgut. Skin was closed with intra-cuticular dermal sutures and intra-cuticular horsehair just beneath the epithelium. Horsehair stitches were removed in forty-eight hours and dermal in six to ten days.

Fig. 2 (right). Result six months after injury. The scars are scarcely perceptible and there are no stitch marks showing as would have been the case if coarse suture materials were used as interrupted sutures.



Fig. 5 (left). Windshield glass severed a small portion of the tip of this nose, forming an extra nostril on top. It was replaced later by a full thickness graft of upper eyelid skin placed over the surrounding scar tissue turned in and stitched in place to form a base for the graft.

Fig. 6 (right). Several months later, the pink glow which often is present in a new graft had disappeared and the color match is excellent. Skin other than face skin would have left a whitish patch of skin.

conspicuous scars. Larger areas will probably have to be delayed for more extensive plastic operations. Occasionally, a portion severed or practically severed can be re-sutured and with carefully applied hot dressings can be revived and made to "take." (Figs. 1 to 8.)

The terrific speed of travel combined with the high windshield and cowl of the modern car has been responsible for an ever increasing number of very severe crushing facial injuries and it is this type of injury in particular, to which I wish to direct your attention.

In case of a collision, the driver can often protect himself by gripping the wheel, but if he happens to be asleep, his face often is crushed against the steering post and he sustains what we have termed a "steering post injury." (Fig. 9.)

Often, the chin is badly lacerated, the



Fig. 3 (left). A "V" shaped cut almost severed this entire nose. The nasal bridge was badly comminuted and the internal canthal ligament torn loose in each eye. These were sutured together with chromic gut extending across through the nose. The nasal bone fragments were replaced and the wound closed with subcuticular stitches.

Fig. 4 (right). Scars are quite fine lines—there is some spreading between the eyes, but they function properly. The nasal bones, though badly comminuted, seem to have healed kindly so that a fair nasal bridge remains.



Fig. 7 (left). Glass cut an olive-sized section of the skin from the bridge of this nose. The wound was kept clean with sterile vaseline dressings. Forty-eight hours later, a full thickness graft was removed from the posterior aspect of the ear and sutured in place. Sponge pressure dressings were applied.

Fig. 8 (right). Patient, six months later. Graft matches nicely and no tedious flap transfers were necessary because of early Wolfe graft. Ear cartilage will be inserted later to raise the bridge slightly at this point.

lower teeth knocked inward or out entirely and the mandible fractured at the condyle region or the cuspid region. Should the blow be on the upper lip and upper jaw, lacerations are usually present together with anterior tooth injury or loss and often a complete transverse fracture of the upper jaw. The maxilla appears to be dropped down and backward and hanging by the mucous membrane. (Fig. 10.)

Occasionally the steering post strikes even higher and the nose is crushed or, if





Fig. 9 (left). Typical steering post injury. Fracture of both necks of the condyle of the mandible; bilateral fracture in the bicuspid region and decided retro-position of entire mandible. Extensive chin lacerations usually accompany such an injury.

Fig. 10 (right). Typical guest passenger injury—crushed nose, maxilla, malar bone and laceration of left eye, causing its loss. Plaster head cap and maxillary splint with side arms were used to hold up the maxilla.

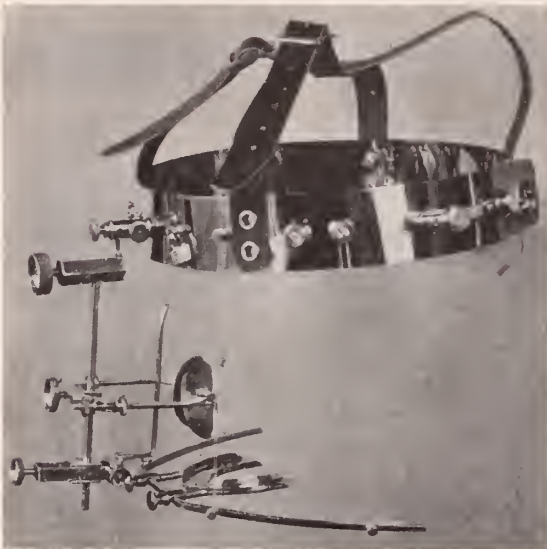


Fig. 11. Author's apparatus for treating fractured facial bones. Headband with anterior and lateral binding posts and knobs for elastic suspension of maxillary splint, adjustable nasal assembly for elevation of bridge and compression of sides of the nose, maxillary splint adjustable to different sized jaws with fixed side arms for upward traction.

the blow is received somewhat laterally, the malar bone is fractured.

The most severe injuries, however, are usually received by the guest passenger in the front seat. Unfortunately, these are, in eight out of ten cases, young girls and women. In the event of a sudden collision, their faces are thrown violently against the upper edge of the instrument panel and usually a severe crushing injury to the middle third of the face results from the impact. The upper jaw is usually fractured, nasal bones are crushed downward and outward, cheek bones forced inward and, not infrequently, the eyeball or frontal bones are injured. This combination of injuries is so



Fig. 12 (left). Badly crushed nasal bones and frontal sinus outer table were elevated forty-eight hours after injury.

Fig. 13 (right). Appliance adjusted maintaining elevation of nasal bones and lateral pressure to crushed sides. Unfortunately, unavoidable pressure over frontals somewhat depressed the frontal bones again.



Fig. 14 (left). Plaster head cap makes excellent firm attachment for nasal appliance. Nasal bones were held up and lateral pressure applied by appliance. Maxillary splint was held up by elastic traction to coat hanger wire attachments embedded in plaster cap. Light elastics should be used or an impaction of the maxillary fracture with over correction may be produced.

Fig. 15 (right). Profile view six months after patient was treated for crushed nose and maxilla. The teeth are in excellent occlusion and the nose is well formed.

typical that we have called them "guest passenger injuries."

These injuries are occurring with such frequency nowadays that it is presenting an almost new surgical entity and, unless properly treated, these injuries leave very grotesque deformities, and even with the best treatment the resulting disfigurement is often considerable.

*Treatment.*—One should always suspect a skull fracture in these severe facial injuries and the examination and emergency treatment should be done with great care and depend entirely upon the general condition of the patient. With this in mind, I believe it is well to make the early diagnosis of the

fractures by manual examination rather than submit such patients to the necessary moving to secure good x-rays. These can be taken when the condition of the patient warrants it. Palpation around the rims of both orbits simultaneously will usually disclose the site of a malar bone fracture. This is often associated with flattening of the cheek, anesthesia of the side of the nose and upper lip and, occasionally, the impingement of the zygoma on the coronoid process restricts the mandibular movements.

Many different methods have been suggested to elevate depressed malar bones. A large towel clip passed through the skin of the lower lid and cheek, grasping the malar bone, can often be used to elevate the bone into position. The author usually prefers to use a heavy antrum trochar passed through the oral mucous membrane above the last molar tooth and behind the malar. Upward traction guided by external manipulation of the bone with the other hand will usually reduce most fractured malar bones. If the reduction is done early and the fragments made to overlap the maxillary edge, the bone will usually stay in place, but if reduction is delayed, the fractured edges become smooth and other methods may be resorted to to maintain the proper reduction.

In my hands, the method of Gill has accomplished excellent results. This consists of making an external incision over the frontal attachment, drilling a hole therein and also in the malar and wiring the parts together with silver wire. Kazanjian has drilled a hole through the infra-orbital rim, passed silver wire through and held the bone up by an external attachment to a head appliance. One general essential in all malar bone and maxillary fractures is that ample drainage of the antrum be provided either under the inferior turbinate or into the mouth through the canine fossa. These fractures are all potentially infected and the blood clots filling the antrum provide excellent media for growth unless drained out. The drainage in all these cases should also be encouraged by frequent nasal shrinking with some astringent.

Nasal injuries are very common in severe motor injuries and may be simply skin lacerations, partial severance or compound comminuted crushing injuries. The great problem in treating the crushed nose is in maintaining the fragments in proper posi-



Fig. 16. Maxillary fractures unite rapidly, therefore the occlusion should be carefully watched. Malocclusion can be corrected by early elastic traction between dental arches if proper directional pull is exercised. This traction should usually be started after about two weeks of maxillary fixation.



Fig. 17 (left). Depressed scar from steering post injury. The jaw was fractured and several draining sinuses resulted. Adherent scar was the result.

Fig. 18 (right). Scar was excised and carefully resutured with subcuticular stitches. Such scars are often sources of great embarrassment and should be corrected if possible.

tion after elevating and shaping the nasal framework. This has been simplified by the use of the author's appliance which maintains the elevation and also later compression without packing the nostrils to interfere with drainage. (Fig. 11.)

As soon as possible after the injury, the nasal bones are elevated under local anesthetic and a metal or plaster head cap applied. The nasal appliance can then be attached. The intra-nasal rubber covered arms are introduced and the nasal bones elevated by turning the proper thumb screw. The lateral nasal walls are usually spread out and these can be reduced and held in place by the lateral pressure appliance. This appliance need only be worn for one or two weeks in most cases although in some patients there will be some dropping of the nasal bridge no matter what measures are employed. Pressure sores should be guarded against by ad-



justing the lateral pressure pads. (Figs. 12 and 13.)

Fractures of the maxilla must also be handled in combination with nasal fractures

turned over to the laboratory for splint construction. Temporarily the author's adjustable splint can be introduced with or without modeling compound and the side arms held



Fig. 19 (left). The tip of the nose was severed by flying glass. A forehead flap with temporal artery in its center was elevated and resutured to the forehead.

Fig. 20 (center). Three weeks later, forehead flap transferred to nose. The flap was severed in seventeen days and balance returned to the forehead. The denuded forehead was skin grafted.

Fig. 21 (right). After several small shaping operations, the appearance of the nasal tip was quite satisfactory. Hair was combed over the forehead to hide the scar and skin graft.



Fig. 22 (left). For nasal losses in men, the author transfers the skin just below the ear. A tube pedicle flap is made over right sterno-cleido mastoid muscle to sternal notch, and the transfer delayed for three weeks to establish circulation.

Fig. 23 (center). Scar tissue turned in for lining and skin beneath ear transferred to nose. Head cast connected to chest cast holds head in proper position for seventeen days.

Fig. 24 (right). This skin makes an excellent repair. The color is good, skin is thin and easily shaped, practically hairless and no scar is visible on the face. The neck scar is seldom noticed.

in many cases. The diagnosis is usually evident by finding a lowered, movable maxilla on oral examination. To elevate this bone and maintain it in the proper position, a special splint should be constructed with a rigid side arm attachment for extra-oral attachment. Impressions of the upper teeth should be taken at the first examination and

upward by elastic traction to the head cap. (Figs. 14 and 15.)

In the event that these special facilities are not available, the upper teeth can be wired to the lower and the chin held up with an elastic or firm bandage. This is often very unpleasant for the patient, however, because of the intense facial swelling, in-



ability to breathe through the nose, etc. The upper jaw should unite in most cases in from two to three weeks, but frequent examination should be made of the occlu-



Fig. 25 (left). Guest passenger injury resulted in diagonal cut through nose, crushing nasal cartilages. In spite of treatment, a decided deformity resulted. The maxilla was also fractured in the accident.

Fig. 26 (right). Three months after injury—the scar across nasal bridge was excised, prominence on nasal bones removed and a rib cartilage transplant inserted through the incision on the bridge. The wound closed with subcuticular stitches.

sion and, if this is not correct, proper directional pull with elastic traction from one arch to the other will usually produce the necessary movement to bring about proper occlusion. This treatment, however, must not be delayed until complete fixation has taken place or a permanent malocclusion will result. (Fig. 16.)

Fractures of the mandible, although frequently present in such injuries, are so varied and the treatment so standardized that the discussion of this subject is intentionally omitted.

Delayed plastic operations are often necessary or desirable to improve or lessen the deformities resulting after severe injuries. Scar excisions can be attempted after about eight weeks and frequently by employing painstaking technique and suturing with subcuticular stitches, these conspicuous scars can be minimized to a great extent. (Figs. 17 and 18.)

Actual losses of skin can be replaced by pedicle flaps, but these should be of facial skin wherever possible so that a perfect match may be obtained. Nasal skin losses are often sustained and in women where the scar on the forehead can be covered by the hair, a temporal flap carrying forehead skin

can be utilized to make an excellent repair. (Figs. 19 to 21.)

In men, however, where a disfiguring scar would be a constant "eyesore" the author



Fig. 27 (left). Accidental injury often results in septal abscess causing decided saddle nose as in this case.

Fig. 28 (right). Prepared rib cartilage transplant introduced through small mid-columellar incision produced marked improvement in appearance. The psychologic reaction is usually very gratifying.



Fig. 29 (left). Crushing injuries to the nasal tip require a support to the tip as well as to the bridge. A hinged cartilage is introduced through columellar lift incision, supporting the tip and lower half of the nasal bridge.

Fig. 30 (right). Result of hinged cartilage transplant. The maxilla is somewhat receded due to a fractured maxilla. The nasal airway is usually improved after such an operation.

uses the skin just beneath the ear brought to the nose on a tube pedicle along the sterno-cleido mastoid muscle from the ear to the sternal notch. This produces an excellent repair with practically hairless skin similar in texture and color to that of the face and leaves a scar in a much less conspicuous place. Similar flaps can be used for other facial repairs when necessary. (Figs. 22 to 24.)

Depressions of the nasal bridge are one of the most frequent sequelæ of crushing

facial injuries and often require plastic operations for their reconstruction. Most authors agree that costal cartilage is the most ideal transplant for such a purpose.

In such a patient, a plaster impression of the face is taken from which a lead model is made, duplicating exactly, the patient's facial contour. This model is boiled with the instruments and after the rib has been removed, a piece of cartilage is fitted exactly to this model. This obviates the necessity of making several trial insertions of the cartilage into the nose and subsequent removal for further fitting. When the piece of cartilage is fitted properly to the model it is slipped beneath the skin of the nose through a midcolumellar incision. (Figs. 25 to 28.)

In case of a depressed lower half and tip of the nose, a hinged piece of cartilage is inserted to support both the bridge and the tip

of the nose. This is best inserted through a columellar lift incision. (Figs. 29 and 30.)

In closing, I wish again to emphasize that the proper care of facial wounds requires infinite care and patience. Haste is incompatible with good results if a minimum scar is to be produced. Those unfortunates who have resulting deformities should not be told to "forget it" for that is impossible to them. They should be encouraged to seek relief for, in the present strife and competition of everyday life, *every asset* is of importance and one of the most important assets is a good physical appearance.

There are very few whose deformities could not be improved somewhat by plastic procedures. Such reconstructive surgery is more than justified and those who have been rehabilitated by it are often more grateful than others who have been literally snatched from the very jaws of death.

## THE BIOLOGIC UNITY OF HYPERTENSIVE ARTERIAL DISEASE\*

EDWARD J. STIEGLITZ, M.S., M.D., F.A.C.P.†  
CHICAGO, ILLINOIS

Hypertensive arterial disease is a distinct and clearly definable entity. Despite extreme variations in symptoms and signs, in clinical course and in local tissue injury, the essential disturbance is fundamentally quite uniform and follows a consistent pathogenesis. Variations in intensity, rate of progression, and location of the more extensive impairment of the circulation cause different clinical syndromes, although the underlying changes are essentially identical. Moschowitz<sup>19</sup> has recently re-emphasized the necessity of considering disease on a biologic basis, with a precise etiology and consistent pathogenesis. Failure to recognize the fundamental biologic unity of the various manifestations of hypertensive arterial disease has led to arbitrary and confusing empirical classification of the many syndromes secondary to the disease.

Hypertensive arterial disease is not necessarily synonymous with arterial hypertension. Undue elevation of the arterial pressure may and does occur independently of hypertensive disease but only relatively transiently. In almost all instances elevation of the arterial tension is attributable to narrowing of the arteriolar bed, either through arteriolar spasticity, or later, fibrotic narrowings. If the arteriolar spasticity be

brief, the arteriolar tonus may return to normal, but if persistent and prolonged, the progressive changes of the pathogenesis of hypertensive disease are initiated. It is not the disease which causes the elevation of arterial tension so much as the hypertension which is responsible for the disease. Allbutt was among the first to stress the importance of physiologic and pathologic arterial stress as important factors in the progression of hypertensive disease. Arteriosclerosis of the larger arteries is an entirely separate entity clinically, etiologically and pathologically. The anatomic site of hypertensive arterial disease is the arteriolar media; arteriosclerosis occurs in the intimal layer of larger arteries.

The pathologic changes of hypertensive disease may be attributed to long-continued

\*Presented at the ninth annual clinic of the Highland Park, Michigan, Medical Club, Dec. 5, 1934.

†Dr. Stieglitz is a graduate of Rush Medical College; Internist, Assistant Clinical Professor of Medicine at Rush Medical College, of the University of Chicago, Attending Internist to the Chicago Memorial Hospital, and Assistant Attending Physician to the Presbyterian Hospital (Chicago).



irritation and stimulation of the spirally arranged smooth muscle fibers of the media of the arterioles.<sup>34</sup> These changes occur very gradually and slowly, and result from the long-continued muscular hypertonia. Hypertensive disease is invariably first a purely functional disturbance, a variable hypertonia of the medial musculature, and anatomic changes appear later as a result of the functional disturbance. As in any other clinical phenomena, this arteriolar hypertonicity does not involve any new physiologic mechanism but is an exaggeration of a normal response to continued stimulation. That the anatomic changes in the arterioles are not due to the increased intra-vascular pressure is demonstrated by the absence of such arteriolar lesions in coarctation of the aorta, where a severe hypertension exists above the stenosis but where arteriolar spasticity does not occur.

The etiologic sources of such prolonged arteriolar irritation are many. The etiology of hypertensive disease may be summarized as "anything which persistently irritates or stimulates the arterial structures."<sup>34</sup> Almost invariably multiple superimposed insults to the vascular system initiate the progressive changes of hypertensive disease. At first the arteriolar hypertonicity is intermittent and transient, as noted in certain forms of emotional hypertension or "potential hypertensive disease."<sup>35</sup> As irritation is prolonged the spasticity of the arterioles becomes more and more continuous and the arteriolar musculature hypertrophies, as would any muscular structure under the influence of increased work. This medial hypertrophy has been clearly demonstrated.<sup>15</sup> Response to nervous stimulation is now exaggerated; the hypertrophied and overly developed media contract more energetically to the normal vasomotor stimuli. The hypertonia thus becomes more and more continuous with resultant rise of the arterial tension.

Muscle fibers are not adapted to continuous contraction. Muscle cells may do tremendous work without undue fatigue if this work be intermittent, as are the cardiac contractions. Continuous hypertonia leads to muscular fatigue. Fatigue reduces the threshold of stimulation and creates a state of hyperirritability of the muscle cells. Fatigue must be sharply differentiated from exhaustion, when the ability to respond to stimulation is lost. The chemical changes associated

with fatigue<sup>11,34</sup> increase the irritability, and thus further enhance the persistent spasticity. Thus is a vicious circle engendered; fatigue creating hyperirritability which in turn results in more spasticity and fatigue. The habit of excessive contraction becomes firmly established.<sup>21</sup> This phenomenon may well be termed the "perpetuating factor" in hypertensive disease.<sup>32,34</sup>

Exhaustion of certain of the muscle fibers is inevitable as fatigue continues. Certain cells become exhausted, degenerate and die, to be replaced by collagenic connective tissue. This degenerative change takes place very slowly and insidiously and at varying rates in different arterioles. The replacement by connective tissue is not an aggressive invasion but a defense mechanism to support the weakening arteriolar walls. Simultaneously some intimal fibrosis occurs. Destruction of any mesenchymal tissue is followed by just such replacement fibrosis. Gradually, over a period of years, the fibrosis results in an extensive arteriosclerosis. Arterio-sclerosis is the end-point of the pathogenesis of hypertensive disease: permanently semi-rigid, scarred arterioles which are unable to relax. It must be emphasized that this whole pathogenic process is extremely slow, often requiring many years for full development, but it is also terribly persistent. The rate of progression varies in different structures and in each individual;<sup>22</sup> in any single instance of long standing hypertensive disease almost all stages of arteriolar changes are to be found.

This concept of the pathogenesis of hypertensive arterial disease can perhaps be clarified by the accompanying diagram. Such schematic representation of a complex series of physiologic changes naturally is not entirely complete nor proven, but it supplies a logical and useful working hypothesis which correlates the many factors of hypertensive disease by pathogenetic unity.

The clinical aspects of hypertensive disease are many and varied, and sometimes apparently conflicting. When interpreted on the basis of this conception of the pathogenesis these apparent conflicts are erased and the true underlying mechanism explains much that was obscure. There exists a very close mutual and reciprocal inter-relation between the pathogenesis of this disease and the many clinical aspects. Correlation of the



pathologic physiology with the clinical features inevitably clarifies confusion and makes for better diagnosis, therapy and prognostication. I wish to consider briefly certain of the more significant clinical implications of the pathogenesis, particularly in connection with the following aspects of the problem: etiology, progression, variation in location of involvement, cardiac involvement, phases of the disease, evaluation of the prognosis and therapy.

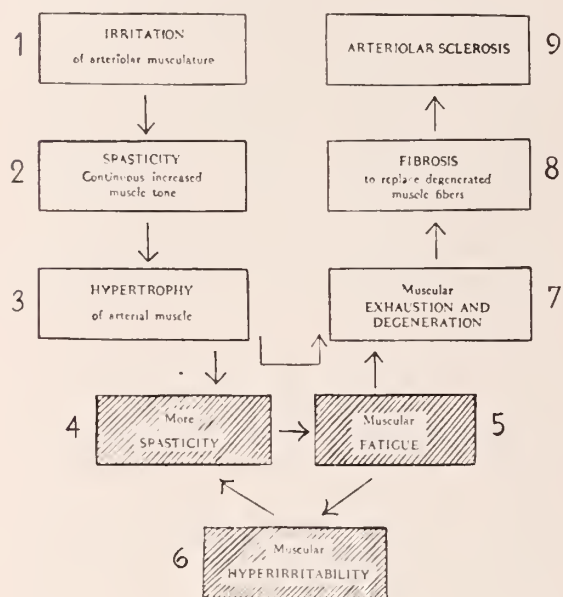


Chart 1. Probable pathogenesis of hypertensive arterial disease. The shaded portion of the diagram represents the vicious circle of fatigue, the "perpetuating factor" in hypertension. Up to the point of muscle degeneration (Step 7) the processes are reversible; beyond that point irreparable. (From reference 34, with permission of the publisher, Paul B. Hoeber, Inc., New York.)

The etiology of hypertensive disease is multiple. The pathogenesis directly implies that the initiating etiology may be *any* prolonged arteriolar irritation. Search for one single, invariable cause for hypertensive disease is futile and doomed to failure. Each instance of the disease presents an individual problem. Careful etiologic study of each and every case is essential.<sup>12</sup> Unfortunately, the extremely insidious asymptomatic early course of the disease makes accurate etiologic diagnosis difficult; at the time the initiating factors are operative the patient feels subjectively well. Because the majority of cases are not seen until late in the course of the disease, it is often impossible to do more than gain a rather vague impression of the *probable* etiologic factors. There is urgent

need for much further study of the earlier, symptomless stages of this disease.

Clinical experience reveals that in most instances of hypertension several contributing factors are superimposed.<sup>26,34</sup> The causation of hypertensive disease involves influences which fall in two major divisions: inherent constitutional vulnerability and long-continued arteriolar stimulation which provokes the progressive changes just outlined. The pathogenesis itself may be responsible for the self-perpetuation of the disturbance. Almost invariably several contributing factors are superimposed.<sup>26,34</sup>

Constitutional factors include diminished endurance of the vascular structures ("poor rubber"), hereditary premature senescence, hyper-irritability of the sympathetic nervous system, instability of emotional temperament, hypersthenic physique, and constitutional endocrinopathies such as virilism and thyrotoxic constitution.

Provoking factors may be divided into intoxications, infections, and neurologic influences. Intoxications may be endogenous or exogenous. Endogenous sources of prolonged arteriolar stimulation include fatigue, metabolic disturbances such as hypocalcemia, the climacteric and hyperepinephrinemia, pregnancy, anemia and nephritis. The commoner exogenous intoxications are chronic metal poisoning (especially lead and arsenic), dietary irritants, excesses of condiments, and an inadequate intake of fluids.

Infections responsible for the initiation of hypertension may be either focal infections of long duration or generalized and acute. Of the latter type, influenza and typhoid fever are especially significant. Syphilis is rarely a factor.<sup>23,34</sup>

Neurologic stimulation of the arterioles may follow increased intracranial pressure from any source, or be subsequent to long-continued worry and emotional stress. Such consideration of the known etiologic influences is by no means complete. Many other factors are suspected of etiologic association, and undoubtedly there are still others of which we know nothing as yet.

The duration of irritation of the arterioles is of the greatest importance. Transient stimulation results in arterial hypertonia but not in the progressive disease here under consideration. The acute hypertension of eclamptic intoxication rarely continues after abatement of the intoxication.<sup>38,40</sup> Acute

nephritis with hypertension may result in medial thickening but if the intoxication subsides this hypertrophy recedes.<sup>18</sup> Infection is chiefly of etiologic significance if prolonged; neglected foci of infection are more frequently implicated than more active, but transient, infections. It is evident from the diagram that the disease does not become self-perpetuating until arteriolar fatigue becomes significant and that implies *prolonged* hypertonicity. Prior to Step 7 in the diagram the processes are reversible, beyond that point, irreversible. Consideration of the pathogenesis thus illuminates three significant aspects of the etiology of hypertensive disease: the inevitable multiplicity of initiating factors, their obscurity due to the slow and insidious early course, and the importance of duration of irritation in contrast to intensity.

True hypertensive disease is progressive and shows little or no tendency to spontaneous remission.<sup>24</sup> Once fully started by prolonged arteriolar irritation the pathogenic progression is apparently self-perpetuating. Hypertensive disease is not "self-limited." Development is usually very slow but dreadfully persistent, even though many of the original initiating factors may have ceased to exist.<sup>34</sup> As illustrated in the diagram, this tendency to progressive development may be attributed to the vicious circle created by arteriolar fatigue (shaded portion of diagram). Recognition of this factor is essential for adequate curative therapy: it does not suffice to attack only the primary etiologic factors and prolonged *rest* of the arterioles is necessary to overcome this "perpetuating factor." It must also be recalled that constitutional factors in the etiology are usually permanent and not amenable to therapy.

The rate of progressive arteriolar degeneration varies greatly in different individuals, but the successive phases of the development are essentially identical.<sup>15,22</sup> Unusually rapid progression results in so-called "malignant hypertension." The only appreciable differences of this type from the usual form are quantitative, not qualitative. The reasons for this variability in rate of progression are not clear. In all probability the chief variant is that undefinable something: susceptibility. The nature of the primary etiologic factors plays a determining rôle; the duration and intensity of arteriolar ex-

citation may vary markedly. Age is also a factor; in general, it may be said that the earlier the age of onset of hypertensive disease the more rapid the progression. It is, of course, impossible to accurately differentiate the significance of these variable factors. Superimposition of new arteriolar excitation leads to relatively acute exacerbation of the hypertension and accelerates the appearance of degenerative changes. Notable among such instances is the marked and permanent exacerbation of pre-existent hypertensive disease by the intoxication of pregnancy.<sup>38,40</sup> The pathogenesis, then, explains the persistently progressive nature of the disease and is entirely consistent with variations in rate of development.

The progression of this disease does not proceed at the same rate in all the arterioles of the body, nor is the spasticity uniform throughout. There are certain areas in the vascular tree which appear to be particularly vulnerable. In different individuals different areas may reveal exaggeration of the arteriolar disease. Local angiospasm cause many variable syndromes,<sup>28</sup> depending largely upon the site of the disturbance. Angiospasm of the coronary vessels may result in typical angina pectoris,<sup>13,28</sup> vascular disturbances in the pulmonary circulation may cause acute pulmonary edema, cerebral spasms result in most variable phenomena, such as aphasia, convulsions, monoplegia or paresthesias.<sup>28,34</sup> The degenerative changes may also vary markedly in intensity in different areas. It is as a result of this that the fundamentally basic disturbance becomes clinically subdivided into divers syndromes. No adequate explanation has yet been presented of why the evolution of hypertensive disease may affect various areas with greater intensity.

Certain areas appear to be sites of marked predilection; the renal vessels are almost invariably involved, sclerosis of the splenic arteries occurs in about two-thirds of hypertensive patients, the pancreatic arterioles in about one-half, and the cerebral vessels in one-fifth.<sup>9</sup> Involvement of the coronary arterioles is very frequent.<sup>34,41</sup> Marked arteriocapillary fibrosis of the cerebral vessels results in apoplexy, retinal involvement in retinitis<sup>10,16</sup> coronary involvement in myocardial insufficiency, coronary occlusion or angina pectoris, pancreatic sclerosis in diabetes (senile types), and renal involvement



in nephrosclerotic nephritis.<sup>19</sup> Thus many quite distinct syndromes may have as a common basic pathogenesis the progressive disturbance of hypertensive arterial disease.

These syndromes are all fundamentally due to a common failure: local histanoxia<sup>28</sup> or tissue ischemia resulting from inadequate circulation. Hypertensive disease *per se* is asymptomatic;<sup>34</sup> those symptoms which do appear later are secondary to the circulatory failure of this or that structure. Local ischemia or histanoxia is the cause of cardiac, cerebral, or renal pancreatic injury. Any other coincident handicap to tissue respiration, such as anemia, greatly exaggerates such injury.<sup>4,34</sup> It is entirely unnecessary and illogical to assume that these many syndromes represent separate entities; the pathogenesis and mechanism are the same in all, only the site of maximum injury varies.<sup>19</sup>

There exists a curious paradox between pathologic and clinical observations. Although sclerosis of the renal arterioles is almost invariably present in long standing hypertensive disease, renal failure accounts for but about 10 per cent of deaths attributable to hypertension.<sup>20</sup> On the other hand, cardiac failure is responsible for about 60 per cent of such deaths.<sup>3</sup> Cardiac exhaustion, or defeat, is the chief cause of disability and death in hypertensive disease.<sup>7</sup> This discrepancy between the clinical and anatomic necropsy findings may be explained by consideration of the pathogenesis. The cardiac reserve is depleted by other factors as well as local ischemia.

It is a justifiable clinical concept to assume *a priori*, that in every instance of prolonged hypertension some cardiac damage exists.<sup>42</sup> This inevitable cardiac involvement is due to several synergic etiologic factors. Of the greatest importance in the etiology and mechanism of cardiac injury in hypertension is the greatly increased burden of cardiac work. Elevation of the diastolic pressure is synonymous with increased peripheral resistance against which the heart must work. Thus the left ventricle must continuously exert itself excessively.<sup>8</sup> The higher the diastolic tension, the greater the cardiac burden.<sup>34</sup> It is thus not surprising that left ventricular fatigue eventually becomes exhaustion.<sup>6</sup> Furthermore, the site of hypertensive disease is in the media of the small arterioles. The myocardium is medial musculature, embryologically, struc-

turally and functionally, as the endocardium is continuous with and synonymous to the vascular intima. The myocardium is thus subject to, and vulnerable to, the same sources of injury which initiate and perpetuate the hypertensive disease. These considerations do not apply to the renal parenchyma.

Besides myocardial fatigue and direct damage as implied by the pathogenesis, a third major source of cardiac injury is the nutritional one. Not only is the left ventricle required to carry an excessive burden of work, but it must do this under conditions of impaired coronary circulation with diminished efficiency of tissue respiration. Reduced oxygen supply and inadequate removal of the products of catabolism add greatly to the injury. Not infrequently does hypertensive disease also involve the pancreas with resulting impairment in the utilization of glucose. Glucose is the chief source of cardiac energy and any such impairment is of serious moment.<sup>29,41</sup> Recent investigations<sup>17,31,45</sup> reveal how necessary are relatively high blood sugar levels to the elderly arteriolar-sclerotic individual.

Consideration of the pathogenesis also assists in understanding the clinical aspects of the cardiac reserve in hypertension. The cardiac reserve goes through three successive stages: first a sthenic phase, later a period of asthenia or reduced reserve, and finally cardiac decompensation. The first or sthenic phase occurs when the burden of cardiac work has been increased by the diastolic hypertension, before the myocardium has been extensively injured by coronary inadequacy, etc. As is true of any muscular structure, hypertrophy and increased vigor are the response to increasing work; such compensation is always in excess of the requirements. At this stage the heart is vigorous and strong, the pulse slow and the response to effort good.<sup>34</sup> Later, as compensation is no longer able to keep pace with the gradually but constantly increasing demands, myocardial fatigue ensues, the handicap of coronary disease becomes manifest, and the cardiac reserve is gradually, almost imperceptibly, diminished. The pulse becomes more rapid, the heart somewhat larger, the left axis deviation of the electrocardiographic tracing more marked, and dyspnea may be noted on gradually diminishing degrees of effort. This period of impaired reserve may



persist for many years before final decompensation occurs as the result of ever increasing insults and mounting burden. The mechanisms of cardiac failure<sup>41</sup> do not concern us here. The functional changes in the heart are thus quite parallel to those of the arterioles as described in the pathogenesis of hypertension.

Despite the greatly augmented left ventricular burden, cardiac hypertrophy is usually surprisingly slight and very slow.<sup>1</sup> One may tentatively suggest that this is in part attributable to the late age of onset of the cardiac overload in contrast to the situation in rheumatic or luetic valvular disease or congenital defects. Diastolic hypertension is said to increase the coronary flow<sup>30</sup>; thus the coronary impairment is less than in aortic regurgitation, which is characterized by excessive left ventricular hypertrophy.

During the slow, gradual pathogenesis of hypertensive disease the disease passes through several rather distinct phases. These are not sharply demarcated, but are clinically distinguishable and correspond closely to the major pathogenic phases. At the onset of the disease (Steps 1 and 2) the arterial tension is extremely labile and variable, but may return to normal levels upon correction of the source or sources of arterial irritation. This phase is illustrated by emotional hypertension,<sup>35</sup> eclamptic hypertension<sup>38,40</sup> and in thyrotoxicosis. We may well designate this phase as potential hypertensive disease.

Later, when the hypertonia has existed for some time and the habit of arterial spasm has resulted in medial muscular hypertrophy (Steps 3 to 6), the elevation of the arterial tension is more persistent although still widely fluctuant. Mere eradication of the initiating etiologic factors does not suffice in arresting the progression; the "perpetuating factor" of arteriolar fatigue is now operative. With active vasodilators the tension can be temporarily brought to normal, but promptly rises again. This phase is best designated as the spastic stage.

With the gradual insidious development of degenerative changes (Steps 7 to 9) the arterioles become fibrotic and lose their power of independent contraction and relaxation. The arterial tension, particularly the diastolic tension which represents the peripheral resistance, becomes relatively rigid

and fails to fall under any therapeutic management. These changes are permanent, irrevocable, irreparable and non-amenable to therapy. This phase, clinically and pathologically distinct, may be designated as the sclerotic stage.

The parallelism between these clinical phases and the steps in the pathogenesis is obviously very close. However, as previously pointed out, the disease does not progress uniformly throughout the body and thus in any one patient sclerosis in certain arterial areas may coexist with arteriolar spasticity elsewhere. The stages overlap.<sup>43</sup>

The prognostic implications of the pathogenesis are significant. It is obvious that the amenability to therapy depends largely upon the stage of pathogenesis. Spasticity is relaxable, hypertrophy of the muscle subsides with lessened use, fatigue is amenable to the influences of rest and hyperirritability may be overcome. On the other hand, scarred, fibrotic arterial walls are *not* relaxable, the degenerative changes are irrevocable. Clinical diagnosis of the phase of the disease or the degree of permanent fibrotic scarring can be made with considerable accuracy. The duration and intensity of the hypertension are entirely inadequate guides to the extent of probable sclerosis; the disease may remain in the spastic phase for many years or progress to sclerosis relatively rapidly. The degree of fluctuation, particularly of the diastolic tension, as observed repeatedly over a long period of time, serves as a valuable aid. The same information may be obtained more rapidly by noting the degree of arteriolar relaxation induced by a transient, active vasodilator such as amyl nitrite or nitroglycerol.<sup>36,42</sup> Spastic arterioles can be at least temporarily relaxed by the inhalation of amyl nitrite, whereas sclerotic vessels can not. By noting the approach of the diastolic tension toward or below normal, it is possible to gauge quite accurately the average degree of arteriolar sclerosis. This amyl nitrite test for determining the phase of hypertensive disease has proven to be of great clinical value, especially in evaluating the amenability to therapy in any specific instance of disease.<sup>36,42,44</sup> As is true of any clinical test, the interpretation of the observed findings is the most important element.

Evaluation of the status of the cardiac and renal function reserves are also neces-

sary to wise prognostication. Extensive *local* injury may markedly darken the outlook despite the fact that the majority of the arterioles are relaxable. Especially is this true when cerebral or coronary sclerosis is marked. Direct inspection of the retinal arteries by ophthalmoscopic examination may yield invaluable data as to the extent of sclerotic change in the ocular and cerebral vessels.<sup>10,16</sup> The average relaxability, as revealed by the amyl nitrite test, does not necessarily parallel the local findings (ophthalmoscopy) because of the variable rate of progression in different areas.

As successful curative therapy must inevitably be based upon etiology, the etiologic background must be considered in evaluating the prognosis. Certain etiologic factors are amenable to therapy; others are not. A marked familial tendency to hypertensive disease affects the prognosis adversely.

The concept of the pathogenesis illustrates why hypertension *per se* is a menace. The increased arterial tension is the source of vascular fatigue and thus significant in the perpetuation and progression of the disturbance. Hypertension as a clinical phenomenon is not to be ignored, but is an urgent indication for therapy directed against the hypertension itself. The idea that elevation of the arterial tension in hypertensive disease is a compensatory phenomenon<sup>46</sup> is incorrect. The renal and cardiac circulation is clearly more efficient following gradual reduction of the hypertension.<sup>36</sup> Some of the other risks of hypertension have been mentioned.

The logic of therapy in hypertensive disease is intimately correlated with and dependent upon an understanding of the pathogenesis. The primary objective is interruption of this pathogenic progression and return of the circulatory mechanism to normal. Whether the changes are reversible under therapeutic attack, or have become irreparable, depends largely upon the phase of the pathogenic progression. Reduction of the arterial hypertonia, irrespective of the cause, is most surely indicated, as the hypertension itself is of major significance in perpetuating the disturbance. The pathogenesis, however, reveals that the progressive increase in arterial tension is very slow and that much compensatory change takes place during the years of gradual develop-

ment. It is thus implied that the reduction in arterial tension should also be gradual. Clinical experience has emphatically confirmed the advisability of gradual reduction; rapid fall may cause considerable distress, especially by creating a cerebral anemia through relative hypotension.<sup>34</sup> Relative hypotension is most exceptional if the reduction in pressure is gradual and the approach to normal levels a question of weeks rather than hours or days.

In instances of long standing disease where arteriolar sclerosis exists, a moderate hypertension may be necessary to maintain adequate tissue nutrition. Reduction to theoretically normal levels is therefore not always wise; the determining factor is the degree of irreparable damage in the pathogenesis.

The therapeutic objective is not merely transient reduction of the tension; that is easy and relatively futile except in acute vascular crises.<sup>28</sup> The objective is arrest of the progression and protection against the *future*. Adequate therapy must be prophylactic in viewpoint. A man of fifty with an arterial tension of 160/100 is in no immediate jeopardy, but unless the progression is halted, the grave menace of severe hypertensive disease is later inevitable.<sup>14</sup> It must be born in mind constantly that the constitutional tendency remains and that recurrences and exacerbations are initiated by relatively minor insults. The pathogenesis thus emphasizes several significant therapeutic considerations: the desirability of reducing the tension, the necessity of gradual reduction; the advisability of reduction to optimum levels rather than to a theoretical norm and the essential importance of continued prophylactic therapy early in the course of the disease.

Logical curative therapy must be based upon etiology and an understanding of the pathologic processes.<sup>34,43</sup> All curative therapy is based upon three fundamental principles: (1) Removal or amelioration of the source or sources of injury (etiologic therapy); (2) reduction of the functional burden of the injured structures; and (3) enhancement of the opportunity for recuperative rehabilitation through maintenance of optimum conditions of tissue nutrition and respiration.<sup>43</sup> In the management of hypertensive disease these three principles of therapy are particularly applicable; the



omission of any one of the triad results in inadequate therapy.

Application of the first principle is obviously dependent upon recognition of the etiologic factors. The necessity for a painstaking etiologic analysis of every case of hypertension is apparent; no two patients necessarily present the same etiologic picture. It is often most difficult to gain more than an impression of the probable factors because of the obscurity of time and the multiplicity of factors. Nevertheless, should any active etiologic factors be elicited, the first step in successful therapy is their correction, whenever feasible. The correction of chronic plumbism, oral sepsis, unwise dietary or thyrotoxicosis may be cited as examples.

The initiating factors may be non-amenable to correction (constitutional factors) or have ceased to be operative. The disease perpetuates itself largely because of arteriolar fatigue. It is thus of vital importance that the physiologic burden of the injured structures (the arterioles) be reduced. It does not suffice that the hypertonia be transiently relaxed, for arteriolar relaxation must be gradual, *persistent* and *prolonged* so that prolonged *rest* may break the vicious circle of fatigue, hypertrophy and hyperirritability. Prolonged arteriolar sedation<sup>32,34,37</sup> serves two purposes: causes reduction of the arteriolar tonus and the blood pressure, and permits of arteriolar rest so that the effects of fatigue are reduced and the muscular hypertrophy may subside. It has been demonstrated<sup>44</sup> that sufficient duration of such mild arteriolar sedation will cause the arterial tension to remain *permanently* lowered if no active initiating factors are neglected.

As yet, no wholly satisfactory, mild but persistent arterial dilator drug has been made available. Bismuth subnitrate<sup>5,32,33,34,37,44</sup> is frequently effective, but is often too mild; potassium thiocyanate is toxic<sup>33</sup> and the soluble nitrites far too fleeting in their effects. We may predict, however, that the future management of hypertensive disease will center about some form of medication inducing mild, persistent and prolonged arteriolar relaxation to permit of prolonged arteriolar rest. Time is a vital factor. If the anatomic and functional changes of hypertensive disease are to be reversed, ample time must be allowed. Hypertrophy of muscles will subside with relative disuse, but

very slowly. The earlier in the course of the disease that such management is instituted the more prophylactically effective will it be.<sup>14,34</sup>

It is illogical to anticipate repair and rehabilitation from tissues receiving an inadequate supply of oxygen and food. Correction of anemia, support of the myocardium and maintenance of proper nutrition are important. Too radical restriction of the dietary is unwise.

It has been our object to point out the fundamental biologic unity of all the many aspects of hypertensive arterial disease by their consideration in the light of a consistent and fundamental pathogenesis. Correlation of the pathogenesis with the clinical problems illuminates much in connection with the etiology, the progressive nature of the disease, its variable course and variable sites of predilection, its distinct stages, the inevitable cardiac involvement, the evaluation of the prognosis and the logic of its therapy.

### Bibliography

1. Auhertin, C.: Bull. et Mém. de la Soc. Med. des Hop. de Paris, 53:1371, (Dec. 9), 1929.
2. Badia Brandia, M.: Revista de Barcelona, 13:3 (Jan.), 1930.
3. Bell, E. T., and Clawson, B. J.: Arch. Path., 5:939, 1928.
4. Brandman, H.: Arch. Int. Med., 50:306, (Aug.) 1932.
5. Bruen, C.: Jour. Lab. & Clin. Investig., 18:138, (Nov.) 1932.
6. Christian, H. A.: J. A. M. A., 91:549, 1928.
7. Faber, J.: Am. J. Med. Sci., 175:453, 1928.
8. Fahr, G., and Davis, J.: Annals Int. Med., 4:211, (Sept.) 1930.
9. Fishberg, A. M.: Arch. Int. Med., 35:650, (May) 1925.
10. Fishberg, A. M., and Oppenheimer, B. S.: Arch. Int. Med., 46:901, (Dec.) 1930.
11. Fletcher, W. M.: J. Physiol., 47:361, 1913.
12. Herrick, J. B.: Jour. A. M. A., 95:1631, Nov. 29, 1930.
13. Keefer, C. S., and Resnik, W. H.: Arch. Int. Med., 41:769, (June) 1928.
14. Keith, N. M., and Kernohan, J. W.: Annals Int. Med., 4:217, (Sept.) 1930.
15. Kernohan, J. N., Anderson, E. W., and Keith, N. M.: Arch. Int. Med., 44:395, 1929.
16. McAlpine, D.: Lancet, 2:1152, (Nov. 26), 1932.
17. Middleton, W. S., and Oatway, W. H.: Am. Jour. Med. Sci., 181:39, (Jan.) 1931.
18. Moschowitz, E.: Jour. A. M. A., 90:1526, 1928.
19. Moschowitz, E.: Jour. A. M. A., 99:714, (Aug. 27) 1932.
20. Mosenthal, H. O.: The diagnosis and treatment of variations in blood pressure and nephritis. Oxford Monographs on Diagnosis and Treatment, Vol. VII, p. 144. Oxford, New York, 1929.
21. Mumford, P. B.: Brit. Med. Jour., 1:324, 1927.
22. Murphy, F. D., and Grill, J.: Arch. Int. Med., 46:75, 1930.
23. Nuzum, F. R., and Elliot, A. H.: Am. Jour. Med. Sci., 181:630, 1931.
24. Palmer, R. S.: Jour. A. M. A., 94:694, (March 8) 1930.
25. Paullin, J. E., Bowcock, H. M., and Wood, R. H.: Am. Heart Jour., 2:613, 1927.
26. Post, W. E., and Stieglitz, E. J.: Am. Jour. Med. Sci., 171:648, 1926.
27. Riesman, D.: Jour. A. M. A., 96:1105, April 4, 1931.
28. Riesman, D.: Am. Jour. Med. Sci., 185:29 (Jan.), 1933.
29. Smith, F. M., Gihson, R. B., and Ross, N. G.: Jour. A. M. A., 88:1943, (June 18) 1927.
30. Smith, F. M., Miller, G. H., and Graber, V. C.: Arch. Int. Med., 38:109, 1926.
31. Soskin, S., Katz, L. N., Strouse, S., and Ruhinfeld, S. H.: Arch. Int. Med., 51:112, (Jan.) 1933.
32. Stieglitz, E. J.: Jour. Pharm. and Exper. Therapy., 32:23, 1927.



33. Stieglitz, E. J.: Jour. Pharm. and Exper. Therap., 35:407, (Dec.) 1928.
34. Stieglitz, E. J.: Arterial Hypertension. Hoeber, N. Y., 1930.
35. Stieglitz, E. J.: Am. Jour. Med. Sci., 179:775, (June) 1930.
36. Stieglitz, E. J.: Arch. Int. Med., 46:227, (Aug.) 1930.
37. Stieglitz, E. J.: Jour. A. M. A., 95:842, (Sept. 20) 1930.
38. Stieglitz, E. J.: Am. Jour. Obst. and Gynec., 21:26, 1931.
39. Stieglitz, E. J.: Section on arterial hypertension. The Cyclopedia of Medicine, Vol. III, p. 298-318. George M. Piersol, Editor-in-chief, F. A. Davis, Philadelphia, 1932.
40. Stieglitz, E. J.: Jour. Missouri State Med. Assoc., 29:505, 1932.
41. Stieglitz, E. J.: Annals Int. Med., 6:406, (Sept.) 1932.
42. Stieglitz, E. J.: Illinois Med. Jour., 62:414, (Nov.) 1932.
43. Stieglitz, E. J.: Boletín de la Asociacion Medica de Puerto Rico, 24:579, (Nov.) 1932.
44. Stieglitz, E. J.: Jour. Pharm. and Exper. Therap., 46:343, (Nov.) 1932.
45. Strouse, S., Soskin, S., Katz, L. N., and Rubinfeld, S. H.: Jour. A. M. A., 98:1703, (May 14) 1932.
46. Wiggers, C. J.: Annals Int. Med., 6:12, (July) 1932.

## A SUGGESTION FOR THE CLASSIFICATION OF CERTAIN ALLERGIC DERMATOSES\*

MARION B. SULZBERGER, M.D.†  
NEW YORK, N. Y.

In an article recently submitted to the *Journal of the American Medical Association*,<sup>4</sup> a tentative classification of allergic dermatoses was suggested. This classification is based upon: (1) the site of the shock-tissue—epidermis or cutis; and (2) the length of time required for the development of the clinically visible reaction after the union of allergen and sensitized tissue.

This classification serves in the main to attempt a sharp differentiation between a hypersensitivity of the ectodermal, epithelial, epidermal type on the one hand, and the mesodermal, connective tissue or vascular hypersensitiveness on the other. Such a differentiation may prove applicable not only to the study of skin sensitivity, but also to the phenomena of hypersensitivity of the mucous membranes and of the internal organs. For these, too, consist of an epithelial and more highly differentiated component and of a stroma of mesodermal origin. It would seem that certain allergic manifestations can primarily affect either one or the other of these two types of tissues; and that an epithelial hypersensitivity differs in fundamentally important ways from a mesodermal one.

This is the case in the skin, at any rate. Close-knit as epidermis and cutis are, and necessary as it may be to regard these two tissues as coördinating parts of one organ, it is apparent, nevertheless, that certain allergic reactions take place in the epidermis; and that, in these, the cutis participates later and only secondarily; and that, conversely, the blood vessels of the cutis can react first

and primarily, and the epidermis changes which may follow, then be of only accompanying and secondary character.

### Group I, Table I

The allergic dermatoses in which the epidermis is the primary shock-tissue are those which are usually called dermatitis eczematosa (eczematous dermatitis), contact dermatitis, dermatitis venenata, occupational eczema, etc. I have gained the impression that these terms have, in general, been used to describe conditions which are intrinsically allied, and that it is impossible and therefore useless to attempt to separate them by hair-splitting definitions. I should prefer to regard them as synonymous, all applicable to this one and the same group.

A glance at the histologic diagram (Table I) will show that the group of epidermal sensitivities is designated as Group I, and that it possesses certain characteristics. In this group, the primary and elementary lesion is the intra-epidermal edema which produces the histologic spongiosis and intra-epidermal vesicle and, when further developed, the clinical blistering and weeping. The reaction of the epidermal tissue is almost always relatively slow, and not of the explosive or immediate type. It usually

\*Read before the section of Dermatology, 114th annual meeting of the Michigan State Medical Society, Battle Creek, September 12 and 13, 1934.

†Dr. Sulzberger is a graduate of the Medical School of the University of Zürich, Switzerland, 1925. He is Director of the Department of Dermatology and Syphilology, French Hospital, New York City; Associate Dermatologist, New York Post Graduate Medical School and Hospital of Columbia University; Associate Dermatologist, Montefiore Hospital for Chronic Diseases, New York City.

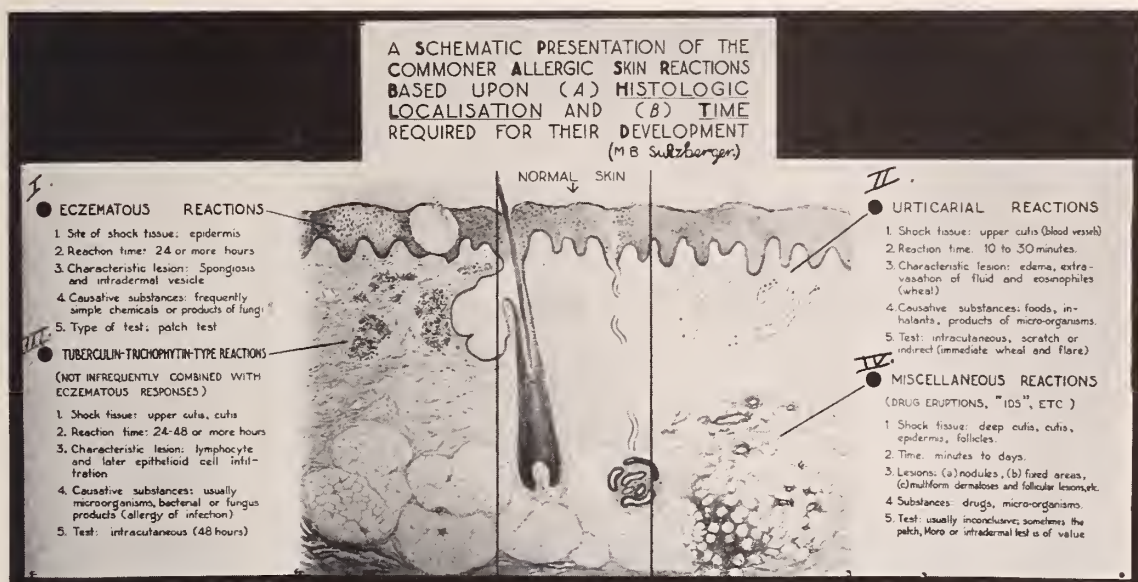


TABLE I

(Reprinted from article now in press, Journal of American Medical Association, "A Tentative Classification of Allergic Dermatoses" by Sulzberger, Wise and Wolf.)

takes 24 to 48 or more hours for the clinical reaction to reach its acme. Although there have been many claims that antibodies (Prausnitz-Küstner antibodies—reagents of Coca) have been demonstrated in this type of hypersensitivity, I can record only negative results in my own very numerous attempts at their demonstration. And I believe that it is the opinion of the majority of investigators that thus far none of our present methods has brought incontrovertible proof of the existence of antibodies in eczematous dermatitis.\*

It is another characteristic of this form of epidermal hypersensitivity that the hereditary or familial element is generally absent. (Table II.)

Even this very brief enumeration of characteristics must bring the recognition that epidermal (epithelial) hypersensitivity differs fundamentally from other forms; and that it must occupy a place of its own in the classification of types of allergy.

A further consideration of the site of the shock-tissue, of the length of the reaction time, and of the means which this shock-

tissue has at its disposal to protect itself from possible sensitizing noxae—all lead to inevitable deductions which are in conformity with actual clinical observations and, therefore, of practical value. For instance, it must be the object of the skin tests to bring the allergen into contact, as intimately as possible, with the hypersensitive- or shock-tissue. Since the usual scratch method or method of intracutaneous injection carries the greater part of the allergen *through* the epidermis and immediately into the upper cutis, these methods are obviously not suited for testing epidermal hypersensitivity. (I have been able to convince myself, by means of intracutaneous injections of methylene-blue solutions followed immediately by excision of the injected site, that practically none of the dye is deposited in the epidermis, but that it is injected only into the cutis structures.)

To test for epidermal hypersensitivity, it is therefore necessary to employ a technic which does not over-shoot the mark in this manner, but which brings the suspected substances into intimate and concentrated contact with the epidermal shock-tissue. The suitable method is the patch test of J. Jadasohn and Br. Bloch, which is now too well known to require further description. Since the reaction takes 24 or more hours to reach its maximum, it follows that the tests

\*It is quite possible that new methods will successfully demonstrate fixed cellular antibodies in eczematous and epithelial hypersensitivity. A method of extracting cytoplasmic fluid by means of high-pressure presses was recently described by Beatrice and David Seegal and Khorazo, and commented upon in an editorial in the Jour. A. M. A., 103:922, 1934. It would seem that such a method could be applied to the study of eczematous contact dermatitis with prospects of successful demonstration of cellular antibodies.

**CLASSIFICATION OF THREE COMMON TYPES OF ALLERGIC SKIN DISEASES AS REGARDS SPECIFIC ETIOLOGIC DIAGNOSIS AND TREATMENT**  
(ACCORDING TO A.F. COCA AND M.B. SULZBERGER)

	Nature of Excitants	Nature of Skin Test Material	Technic of Test	Reaction Time	Nature of Positive Reaction	Specific Treatment
Atopic dermatoses (familial occurrence)	Water Soluble antigens, food proteins and inhaled substances	Aqueous extract or dried extract	Intracutaneous, scratch, or indirect	5 to 10 min. 20 to 30 min.	Wheal and erythema, reaginic	Avoidance if practicable; if not, desensitization may be tried
Contact dermatitis (non-familial)	Thus far non-antigenic substances, often simple chemicals and vegetable oils	Original material, suspected substance or extracted vegetable oil	Surface - contact or patch-test	Usually several hours to several days	Erythematous or vesicular dermatitis. no antibodies	Avoidance if practicable; in the case of vegetable oils desensitization usually successful after 3-4 injections
Fungus dermatitis (eczematous dermatophytids)	Products of hyphomycetes and molds	Filtrate of broth culture	Intracutaneous or patch	Usually several hours to several days	Inflammatory papule and eczematous dermatitis no antibodies	Desensitization is often successful but often tedious

TABLE II

(Reprinted with the kind permission of Dr. A. F. Coca from his article in the Journal of the American Medical Association, 103:1275, (Oct. 27) 1934.)

must be read after a lapse of this period.

It seems to me a logical thought that those potentially sensitizing substances which come into contact with a predisposed shock-tissue in the highest concentration will be those most likely to sensitize that tissue. In the case of the epidermis, therefore, substances in the outer world coming into contact with the skin surface will be the most likely sensitizers.

The living cells of the epidermis are protected from contact with too great concentrations of outside substances by several anatomic and physiological barriers and buffers. The two principal ones are the horny carapace of the stratum corneum and the oily covering of sebum. It is, therefore, not surprising that substances which are able to destroy or pass through these barriers will be the most likely to reach the living cells in sufficient concentration to produce epidermal sensitization, and thus to cause contact dermatitis. Keratolytics and detergents which remove and/or destroy the

fatty and horny covering are, in fact, among the common eczematogenous noxae. Oily substances (the plant oils, for example) can become dissolved in the fatty substance of the skin surface, and are thus more likely to produce contact dermatitis than are the water-soluble "protein" fractions of the plants. I believe that eczematous ringworm is another illustration of this type of epidermal sensitization (compare Table II); for the fungi which produce eczematous dermatophytosis and dermatophytids can multiply only in the horny layer, and their products thus reach first and in highest concentration the living cells of the epidermis. The dyes, such as paraphenyldiamin, scarlet red, etc., have a propensity for fixation to horny substances, and can thus achieve a prolonged and intimate contact with the epidermal cell. Metallic salts in solution possess rapidly moving ions of small dimensions and have thus probably a greater facility for penetrating the protective coverings of the epidermis than is possessed by solutions or colloidal



suspensions of larger particles. The local anesthetics, such as procain and butesin, have an affinity for ectodermal structures, and I believe that I have clinical evidence that they are inclined to adhere most intimately to the epidermal cell (especially when combined with picric acid). All of the substances I have mentioned are, as is well known, frequently causes of contact eczema.

It impresses me that the consideration of the epidermis as shock-tissue may, *per se*, serve as an explanation of many of the clinical characteristics of contact dermatitis. First, it is obvious that such a sensitization is likely to occur (1) on the surfaces exposed to the outer world; and (2) that any anatomic or physiologic inferiority in the protective barriers will predispose to eczematous sensitivity. For instance, persons with excessively dry and easily fissured skin, as well as those with soft, moist and easily macerated skin are candidates for epidermal sensitization. I believe it possible that persons with an *a priori* predisposition for epidermal sensitization and with excessively oily skin may have a tendency for sensitization by oil-soluble allergens. But this still requires experimental proof. In addition to the crude aberrations in the mechanical protective features, which may bring eczematous hypersensitivity in their train, abnormalities of subtler nature may occur. For instance, Burghard<sup>1</sup> of Zürich, in his experiments on individuals who have become sensitized to alkalies, found that the skin of these persons was not capable of neutralizing alkali solutions placed upon its surface, as efficiently as normal skins accomplish this neutralization.

It may be mentioned here that it is sufficiently well known that all occupations and pursuits which, through friction, maceration, or trauma, damage the protective layers of the epidermis, bring in their train the likelihood of a high incidence of contact dermatitis. It seems quite possible that the synergistic action of fungi and other noxae in producing epidermal hypersensitivity may be based upon similar breaking of the protective sheath by the first agent, which thus permits the sufficient penetration of the second sensitizing substance. (There are, of course, other ways in which infection and the action of microorganisms or virus interact or combine with the action of other

allergens in producing sensitization. This is a phenomenon which has long been known and studied in dermatology.<sup>†</sup>)

Recapitulating, it will be seen that the very recognition of the fact that the epidermis is the shock-tissue in contact dermatitis permits a synthetic, if hypothetical, consideration of many apparently unrelated observations. It satisfies our demand for a logical explanation of the eczematogenous nature of many and diversified substances; of why certain types of skin may be likely to become sensitized to certain oil- or water-soluble substances; of why certain occupations tend to produce eczematous hypersensitivities; and of why one can observe evidences of synergistic action of two or more living and non-vital substances and the frequent occurrence of resultant polyvalent hypersensitivities.

### Group II, Table I

In Table I, the vascular, cutis sensitivity of the skin is designated as Group II. This non-epidermal hypersensitivity of the skin has an almost completely different set of characteristics, and must be sharply differentiated from Group I. In Group II, the shock-tissue is not the epidermis, but the superficial blood vessels of the cutis. The reaction here is a question of minutes and not of hours or days, as in Group I; and the characteristic lesion is an extravasation of fluid and certain cells through the walls of the damaged vessel, leading to the clinical appearance of the wheal. In Group II, the spongiosis and vesiculation, *i.e.*, the primary epidermal changes, are missing; and the epidermis changes, when and if they occur, are apparently of secondary nature.

As the sensitizing antibodies are presumably attached to the blood-vessel cells in this type of hypersensitivity, one might expect to find them in the circulating blood as well. And this is, in fact, the case. In many instances of this type of sensitivity, passive transference antibodies can readily be demonstrated in the blood serum of the affected individual (Prausnitz-Küstner experiment—reagins of Coca).<sup>3</sup>

It is a further characteristic of this form of cutis hypersensitivity that the hereditary or familial element is frequently encoun-

<sup>†</sup>See editorial on synergistic action. Jour. A. M. A., 103: 757, 1934. The Sanarelli Phenomenon seems a good illustration of such action. Dermatologists can cite many such examples.

tered. This hypersensitivity runs in families in connection with hayfever, bronchial asthma, etc. The familial occurrence in this combination, and the presence of reagins, stamps this form of hypersensitivity as atopic (by definition).

(What I have just said regarding the characteristics of vascular atopic hypersensitivity refers only to the skin's reaction to the application of scratch and intradermal tests and to the wheal responses to these tests.

There is no absolute proof that the majority of cases of clinical *urticaria* are to be classified in this group.

I believe, however, that there is, on the other hand, a great probability that *neurodermatitis disseminatus* (disseminated neurodermite) and many cases of *infantile eczema* are due to this form of atopic and vascular skin hypersensitivity. I have elsewhere set forth my reasons for this belief (see Sulzberger, Spain, Sammis, and Shanon—Ref. 3). If my contention in this regard should prove true, it will be necessary to explain why there is, as a rule, no manifest whealing in the clinical picture of disseminated neurodermite and of infantile eczema, and why such marked epidermal changes occur in these dermatoses. I have observed certain manifestations which suggest that histologic, subclinical and non-manifest whealing may take place in disseminated neurodermite. Furthermore, most observers agree that the epidermal changes in these neurodermites† are of purely secondary nature, and that the primary lesions take place in the vascular layers of the cutis. These secondary epidermal changes lead to the chronic lichenification which so greatly resembles the lichenification of true chronic eczema. However, since in disseminated neurodermite this chronic epidermal change is not preceded by the characteristic lesions of the eczema, namely, by the spongiosis and intra-epidermal vesicle, I should prefer to consider it not a true, but a *pseudo-eczematization* (eczematoid dermatitis).

It must be emphasized that the thoughts outlined in this parenthesis are founded more upon impressions and theory than upon actual experimental proof, and that it may be necessary for me to change my ideas

on this subject, when and if they are disproven by convincing experiments.)

Just as was the case in Group I, in Group II, as well, the mere consideration of the site of the shock tissue would lead to deductions which are in accord with clinical facts. In this group of hypersensitivities, the walls of the blood-vessels are the sensitive tissues. It is, therefore, logical to suppose that the causative allergens will be those foreign substances which reach the walls of the blood-vessels in the highest concentrations. We may, therefore, expect to find that *hematogenously* distributed substances which have entered the blood stream after absorption through the mucous membranes of the respiratory or gastrointestinal tract will be the usual causes of this type of hypersensitivity. And this holds true. For, in atopic vascular hypersensitivity of the skin, we find that the so-called "protein" antigens, the foreign substances which are inhaled and the food substances which are ingested, are the most frequent offenders. We have as common causes for positive tests in this group of allergic dermatoses, foods, such as eggs, wheat, fish, milk, etc., and inhaled substances, such as feathers, kapok, dust, silk and wool particles, horse dander, pollens, etc.

(Unfortunately, most of these cases of atopic dermatitis are so polyvalent in their hypersensitivity and are hypersensitive to such a long list of environmental and food allergens, that elimination measures cannot be successful. It is not unusual to find such patients hypersensitive, for example, to silk, orris root, house dust, one or two pollens, and five to twenty different foods.<sup>3</sup> It is obvious that the complete avoidance of all of these allergens is a goal which is impossible of achievement. It might be accomplished for a short period, by means of heroic measures, such as allergen-free rooms and rigid and careful elimination diets, but cannot be carried out for any length of time in a manner compatible with the normal pursuit of life and occupation. It would seem impossible, at present, to help these extremely polyvalent patients by more than topical, local (x-ray), general, sedative, and psychic measures. The immunologic approach of these polyvalent cases does not promise to be fruitful until we find a method of effective non-specific desensitization, or a means of reducing the susceptibility to sensitizations in general.<sup>2</sup>)

†Only disseminated neurodermite is meant; neurodermitis circumscriptus is a different disease and is not considered in this paper.



The recognition of the fact that, in Group II, the site of the hypersensitivity is the blood vessels, inevitably leads to the conclusion that the patch test is not suited as a method of investigation in this form of allergy.<sup>3</sup> In this group, one must strive to bring the test substance *through* the epidermis and into immediate concentrated contact with the superficial blood vessels of the cutis. The usual scratch and intradermal tests accomplish this purpose and are, therefore, the ones to use in testing atopic dermatoses — (disseminated neurodermite, etc.). In most instances, the reaction is "immediate" and must be read after the lapse of fifteen to twenty minutes.

### Some General Remarks

Consideration of these remarks and of the two charts shows that the proposed basis for classification indicates, by simple deduction from the facts of site and time of reaction, many characteristics of both theoretic and practical interest in these two groups of allergic skin diseases. Among these characteristics, may be mentioned:

- (a) what type of skin test should be used
- (b) what groups of substances are to be considered
- (c) what personal and family history is to be expected
- (d) whether or not antibodies can be found by present methods
- (e) indication as to the prospects of desensitization
- (f) the probable indication for systemic therapy

What has been said of the polyvalence encountered in patients with Group II type of hypersensitivity, coupled with the practical difficulties of specific desensitization or of avoidance of contact, makes it apparent that knowledge gained from skin testing is of greatly limited value in the practical therapy of such cases. *I should advise turning to skin tests only as a last resort.* However, these tests should not be omitted in cases which have defied all non-immunologic measures of treatment. And sometimes one is fortunate enough to be able to find and to eliminate the causes of such atopic dermatoses; or sometimes even capable of desensitizing the patients specifically, and bringing relief.

In Group I—the "contact" epidermal hypersensitivities—the adequate skin test (here

the patch test) is usually of wider practical significance and of greater aid in prophylaxis and therapy. Nevertheless, I should like to state that even these tests should not be used unless an eczematous contact dermatitis has been shown to persist obstinately, or to recur in spite of the usual topical (x-ray) and rational therapy.

It may seem superfluous to say that skin tests should not be performed until at least an approximate diagnosis has been established. However, I am sure that all dermatologists must agree when I say that, in many cases, an accurate differential diagnosis between such conditions as contact eczema, disseminated neurodermite, chronic lichenified dermatitis from mechanical and other causes, chronic lichenified seborrheic dermatitis, many forms of acute and chronic ringworm and monilia affections, often requires, not only a trained and experienced eye, but also prolonged observation and study by clinical and laboratory methods (including skin tests). And even after all diagnostic measures have been exhausted, all of us have a certain percentage of cases which remains unclear. So that I venture to state that conditions which often present such diagnostic difficulties, even to the most experienced dermatologists, will be regularly mis-diagnosed by the pediatrician, allergist, general practitioner, and by non-dermatologists in general.

But I have seen cases subjected to extensive skin tests, which did not even come into the groups I have mentioned; and I cannot but believe my experience in this respect to be one common to dermatologists. I have repeatedly seen cases of scabies, pityriasis rosea, psoriasis, parapsoriasis, rosacea, dermatitis herpetiformis, drug eruptions, etc., etc., and even of various forms of tuberculosis, of erysipeloid, herpes, impetigo, and other infections persistently and, of course, uselessly skin-tested. So that I believe it to be a mistake to start skin-testing *any dermatologic condition* until the diagnosis has been made by a specialist in dermatology. I trust that my remarks have shown how necessary it is to define more closely into just which group of skin allergies the given case belongs, even after the diagnosis of allergic skin eruption or eczema has been made. Even then, I believe that skin tests should not be commenced until every effort has been made to select, by meticulous and



patient questioning and observation, certain substances which are open to suspicion in the given case. For the number of substances which are possible causes of skin hypersensitivity is far too great to permit a high percentage of favorable results in blind and indiscriminate testing. If your suspicions have not been directed to certain substances as possible causes, the best skin tests will too often prove useless.

Unfortunately, I cannot, at this late hour, enter into details concerning other types of allergic dermatoses—such as the drug eruptions, the allergies of dermatomycosis, tuberculosis, syphilis and other infections, of serum sickness, etc. Some of these are to be placed in Groups III and IV, of Table I.

In closing, it will scarcely be necessary to state that the various possible combinations of two or more types of sensitizations (for

example, epidermal plus vascular hypersensitivity, *i.e.*, Group I plus Group II) may, of course, be found in one and the same individual. Yet such combinations seem to be no more frequent than is to be expected from the laws of mathematical probability.

I hope that what I have sketched may be of some help in the understanding and management of the dermatoses of Groups I and II. These are, today, the two most frequent and, therefore, the two most important classes of skin allergy.

### Bibliography

1. Burghard: (Dermatologic Clinic, University of Zürich). Personal communication to the author.
2. Sulzberger and Mayer: Sensitizations: Regional, seasonal, dietary, and other influences accounting for variations and fluctuations. *Arch. Dermat. and Syph.*, 24:537, 1931.
3. Sulzberger, Spain, Sammis, and Shahan: Studies in hypersensitiveness in certain dermatoses—(1) neurodermatitis (disseminated type). *Jour. Allergy*, 3:423, 1932.
4. Sulzberger, Wise, and Wolf: A tentative classification of allergic dermatoses. *Jour. A. M. A.* (in press).

## REPORT OF A CASE OF EXTRAPERITONEAL OVARIAN CYST

WALTER L. HACKETT, M.B., M.D., F.A.C.S.†

and

MAURICE M. SILVERMAN, B.S., B.M., M.D.‡  
DETROIT, MICHIGAN

It is well known that the embryological development of the human fetus is often capricious. Organs may be transposed, tissue that belongs to one organ may be found buried within an entirely different organ, and many other unnatural conditions have been observed and reported.

The normal ovaries are found within the pelvis. Many supernumerary ovaries have been observed, and are generally located in close proximity to either normal ovary. Few extraperitoneal ovaries have been observed. One of this type has come under our notice which we wish to report.

### Case Report

The patient was forty-five years old, small of stature and abnormally hairy. She complained of pain in the upper left side of her belly, which had progressively enlarged during the past year. The pain was remittent; she noticed that during an attack she was unable to urinate. Her menstruation was regular and normal in amount.

Bi-manual examination revealed no pathological information.

On palpating the abdomen a tumor could be felt which filled up the whole left side extending from the costal margin to the brim of the pelvis.

X-ray of the abdomen revealed the intestines, stomach and spleen displaced to the right downward.

Abdominal section disclosed a large cystic tumor, situated in the kidney region, pushing the parietal peritoneum and the abdominal organs downward and forward.

The omentum was a dirty gray color such as is often seen in abdominal cancer. The pelvic and other abdominal organs were normal. The left kid-

ney could not be located and was apparently incorporated within the tumor. A trocar was inserted into the tumor and a litre and one-half of dark brown fluid escaped. A clinical diagnosis of cystic kidney was made and as much of the mass removed as seemed safe.

The pathologist reported an ovarian cyst with papillary new growth on its inner surface. No kidney tissue could be found within the specimen. The papillomatous portion was atypical, hyperplastic and anaplastic.

### Conclusions

During the embryonic stage of development of the left ovary some of its cells no doubt were left in the region of the kidney after the remaining cells had descended normally into the pelvis. Those that were left developed into this large ovarian tumor, at the same time destroying the kidney.

### References

- Peuch, Albert: Concerning anomalies of the ovaries. *F. Savoy, Paris*, 1873.
- Pidcock, B. N.: *Brit. Med. Jour.*, 2:863, (Nov. 22) 1930.
- McNeil, J.: *Jour. Obst. Gynec., Brit. Empire*, 38:608, 1931.
- Hipsely, P. L.: *Med. Jour. of Australia*, 1:166, (Feb. 14) 1925.
- Shangle, M. A., and Beisler, L. G.: *Surg. Clinic of No. Amer.*, 6:1653, (Dec.) 1926.

†Dr. Walter L. Hackett is Attending Surgeon, St. Mary's Hospital, and Consulting Gynecologist, Receiving Hospital, Detroit.

‡Dr. Maurice M. Silverman is Surgical Assistant, St. Mary's Hospital, Detroit.

## THE GRIDIRON INCISION IN APPENDICITIS

C. R. DAVIS, A.B., M.D., F.A.C.S.†  
DETROIT, MICHIGAN

It is an easy matter to start a discussion among surgeons about the advantages and disadvantages of the various incisions for removing the appendix. There are two main groups of incision favored: in one group are the Battle, right rectus, and paramedian incisions; in the other group are the Davis and the McBurney incisions, the latter of which is also called the gridiron, muscle-splitting, and intermuscular incision. For many years I have used the gridiron incision, the name which I prefer, with increasing frequency, until now I use the gridiron incision for appendectomy almost entirely, and with the proper indications I consider it the ideal incision not only because a lower mortality for acute appendicitis can be obtained by its use but because it has many other advantages which an analysis of my cases discloses. Many surgeons share my views, but many also do not share them. If we could agree on the indications and contraindications for the use of the gridiron incision we could terminate the discussions.

Those surgeons who object to the gridiron incision do so (1) because it gives insufficient room for work, (2) it cannot be enlarged satisfactorily,<sup>16</sup> they contend, (3) it does not permit exploration, (4) there is too great a possibility of errors, and (5) because, as some believe, incisional and inguinal hernias are more common after the gridiron incision.<sup>17</sup> Some surgeons do not give reasons for their objections.

(1) Deftness answers the first objection and can be acquired quickly by all who have courage to begin using the gridiron incision. In other words, many surgeons who have never used the gridiron are afraid to try it, but if they will try it several times, they will find that it is just as easy to work through the gridiron incision as any other incision, and frequently a great deal easier.

(2) Several excellent methods for enlarging the incision have been described which need be mentioned only. The muscles can be spread sufficiently to permit introduction of the hand into the abdomen. Proof of this is given by Dr. Bevan, who uses muscle-splitting incisions, or modified gridiron incisions, for operations upon the cecum and gall bladder. The incision can be changed readily into a transverse Davis

incision by extending the inner end through the anterior and posterior layers of the rectus fascia and retracting the rectus muscle medially. The readiness with which muscles heal and the lack of objection to cutting muscles in kidney operations rule out objections to enlarging the incision in any way that the surgeon may find necessary, in case an error in diagnosis has been made. But so rarely will enlargement be necessary, twice in 859 cases of my own, that it is better to risk occasional enlargement than to use a three to six-inch incision routinely, and it is not criminal to make a second incision in the few cases where that becomes necessary.

(3) Although the gridiron incision can be used as an exploratory incision, it is not a good exploratory incision and should be used only occasionally for this purpose when the diagnosis lies between perforated gastric ulcer and appendicitis where it is better to err with the incision over the appendix than over the stomach. Exploratory laparotomies should be planned before making an incision.

(4) There should be no objection to the gridiron incision because of errors in diagnosis, if it is used only when the diagnosis is certain, a procedure I have followed with few exceptions.

(5) Regarding incisional hernias after operation, it is hard to understand objections to the gridiron incision which anatomically, and according to my experience of having observed only two incisional hernias in the entire series, is the ideal incision for prevention of incisional hernias. Inguinal hernias are claimed to occur because of damage to the ileo-inguinal and ileo-hypogastric nerves causing relaxation of the muscles. Even if this claim were correct, such damage can be avoided by

†Dr. C. R. Davis is a graduate of Ouachita College, Arkansas, A.B., Cornell University, New York City, M.D., 1908. He served as Interne and House Surgeon at the Presbyterian Hospital, New York City. He is Attending Surgeon, Grace Hospital, Miriam Memorial Branch, Chief of Surgical Staff of Parkside Hospital, Advisory Consultant to the Out-Patient Department of Grace Hospital.



knowledge of the anatomy of the region, and one of the nerves comes into view so readily that I never fear damaging either of them. Out of 951 consecutive operations for appendicitis I have found only four patients who have developed right inguinal hernias since the operation, while ten patients had right inguinal hernias at the time of the operation. I have examined ninety-four of this series of cases recently, and many of the others I have seen off and on since their operations. I would greatly prefer to quote a recent examination of all cases and regret that I cannot. Most of the ninety-four patients whom I have examined recently are cases in which I had used drainage.

I made no record of left sided hernias, but I am conscious of the fact that there were some left inguinal hernias present before operation, and that other patients have developed left inguinal hernias after operations for appendicitis. Whenever I read articles about the development of inguinal hernias following operations for appendicitis, I wonder how thoroughly cases of appendicitis are examined for right and left inguinal hernias before operation, and how many of the hernias which have been considered as having developed after operation were either present or potentially present at the time of the appendectomy. I am guilty of having omitted many times the examination for hernia before operation. Until reliable statistics about the observation of inguinal hernias before operation are reported, objection to the gridiron incision on that ground should not be considered seriously. In fact I have concluded that the only objections of merit are offered by those who wish to explore all abdomens and by those who vacillate on the diagnosis.

Some surgeons dislike the gridiron incision because they believe that other incisions have advantages over the gridiron which make them more desirable. Among the surgeons who favor other incisions is Dr. H. H. Greenwood,<sup>7</sup> who voices the viewpoint of many other British surgeons by saying, "It is strange that it has not become completely obsolete," but he does admit that it is "eminently suitable only for the removal of a normal appendix." I contend that if it is suitable for removal of a normal appendix, it is suitable for removal of an acutely inflamed appendix. When he

urges very gentle handling of the small bowel, with which all surgeons agree, by saying, "With free exposure . . . handling of the small bowel is reduced to a minimum," and advocates the use of packs to wall off the small bowel from the field of operation, he makes requirements for obtaining low mortalities in appendicitis which scarcely can be avoided with the gridiron incision, for how can any handling of the small bowel compare with no handling at all, a restriction almost demanded by the gridiron incision. Furthermore, it is almost impossible to place a pack gently in a patient who strains while taking the anesthetic, as patients sometimes do. Approval of the gridiron incision must be granted on the point of gentleness to the small bowel if it is not handled at all, and frequently it is not touched when the gridiron incision is used. Witness the statement of Dr. R. J. McNeill,<sup>13</sup> who said, "In the majority of cases the gridiron incision gives approach to the area of infection without traversing the uninfected peritoneal cavity and hence diminishes the risk of breaking down adhesions." Also Dr. S. F. Cottle,<sup>2</sup> who said, "The manner in which the coats of the small intestines are handled at the time of the operation for removal of the acute appendix is most important. The less handling the less danger of intestinal obstructions from adhesions. The McBurney incision, though condemned by many because of the limited expanse, has this distinct advantage, as it tends to keep the operation away from the coils of the ileum." These few quotations indicate sufficiently that the advantages which some surgeons claim for other incisions are achieved better with the gridiron incision.

Then there are the economic advantages of the gridiron incision, an advantage which cannot be ignored during a depression, for by being able to get a patient home early the hospital expense can be reduced considerably. To be able to get a patient out of the hospital early is also an advantage when hospital beds are scarce. I challenge the advocates of the right rectus, Battle, and paramedian incisions to compete with the advocates of the gridiron incision in being able to get patients home early. Witness my records:

Three hundred and ninety cases were up in five days and 345 left the hospital in five



Days in Bed	No. of Cases	Days in Hospital	No. of Cases
2	1	1	4
3	16	2	2
4	95	3	17
5	278	4	95
6	137	5	227
7	14	6	135
8	38	7	73
9	22	8	47
10 or more	216	9	33
Died	32	10 to 15	130
Unknown	102	15 to 20	56
		Over 20	100
		Died	32

days. When one considers that 181 out of a total of 951 cases were drained and then realizes that 527 were up in six days and 553 out of the hospital in seven days, he must conclude that the gridiron incision has a distinct advantage over straight incisions with which the patient should be in bed at least seven days and generally ten to fourteen days. Another distinct advantage arises from being able to get the patients up early, a procedure I began as a result of a German rumor while I was an interne, that getting patients out of bed early prevents embolism. There were no cases of embolism in the patients who left their beds early. In fact, the one embolism in the entire series occurred the ninth day in bed in a patient who had appendicitis with abscess.

Another great advantage of the gridiron incision is the lower mortality rates which can be obtained. I have found only two optimists among the advocates of straight incisions, Dr. H. H. Greenwood and Dr. Van Buren Knott<sup>10,11</sup> of Sioux City, Iowa. Dr. Knott cites 161 cases of appendicitis with abscess with 1.4 per cent mortality and 283 cases of appendicitis with three deaths. Although he boasts about the right rectus incision, he does not attribute the low mortality to the right rectus incision but to the fact that he has always removed the appendix and used large drains. Dr. H. H. Greenwood,<sup>7</sup> quoted above, reported 206 cases of appendicitis, 18 per cent of which were accompanied by general peritonitis, with no deaths, in which he used a paramedian incision. Dr. H. H. Greenwood's record is unusually remarkable, especially because the paramedian incision above all others compels surgeons to drag the infected area over to the midline and give the infec-

tion a good start on its way towards a generalized peritonitis; perhaps more credit is due to the attributes of the surgeon than to the incision which he used. Most pessimistic statements about mortality rates in appendicitis are those of the surgeons who use the long straight incisions. For this they have good reason, their mortality rates being higher as a rule than the general average of slightly over 4.0 per cent, a fact borne out by the following figures:

Dr. F. C. Warnshuis<sup>20</sup> quoted a mortality of twelve plus per cent at the Providence Hospital in Detroit where chiefly the right rectus incision is used. Dr. R. D. McClure<sup>12</sup> of the Henry Ford Hospital has recently informed me that the figures furnished to Dr. Warnshuis by the Henry Ford Hospital were inaccurate. He considered as accurate 6.5 per cent for acute cases and 0.2 per cent for chronic cases. I regret that I was not informed of this error before publication of my article on "Mortality in Appendicitis."<sup>3</sup> Both types of incisions are used at the Henry Ford Hospital. Perhaps Deaver's<sup>5</sup> record of 5 per cent as an average for twenty years might have been better had he used the gridiron incision in all cases. He did not use it in cases of acute perforated appendicitis but used it in other forms of appendicitis.<sup>4</sup>

In contrast with these statements I find that most of the optimistic statements about mortality rates in appendicitis emanate from surgeons who use the gridiron incision in preference to the right rectus and similar incisions. Drs. W. D. Gatch and Donald C. Durman<sup>6</sup> reported 258 cases with the gridiron incision and a mortality of 7.2 per cent, of which 205 were pus cases and had to be drained. This is lower than the usual average of ten to eleven per cent. Thirty-one cases were done through the right rectus or midline incision, and Drs. W. D. Gatch and Donald C. Durman said, "McBurney cases had far less trouble than the right rectus cases." Dr. Wm. L. Wolfson<sup>21</sup> had a mortality of one per cent in 100 cases, in which he used the following incisions and the number of times he used them:

The gridiron incision.....	95
The right rectus incision.....	4
The midline incision.....	1

Dr. E. Zeh Hawkes,<sup>9</sup> who maintains that "the McBurney incision is an ideal one," except that when the diagnosis is uncertain a right rectus incision should be made, re-

ported 383 cases with six deaths, a mortality of 1.5 per cent. Dr. Jose D. Mendonca<sup>14</sup> prefers the gridiron incision. Dr. Edward D. Truesdell<sup>19</sup> said, "It is felt that the McBurney, or intermuscular incision, has contributed a not unimportant part" in his mortality of 3.9 per cent for 259 cases of appendicitis. This is below the general average of slightly over four per cent. Drs. Leslie W. Tasche and Jos. P. Spano<sup>18</sup> used the right rectus incision in 519 cases out of 700, the gridiron incision in fifty-nine, Battle's incision in 111, and the midline incision in nine cases. At present they prefer the gridiron incision, because it reduces hospital time.

Drs. E. P. Quain and R. H. Waldschmidt<sup>15</sup> used the gridiron incision in 1,000 cases, had twenty-seven deaths, and are happy about the results, though they did not wish to be thought to be bragging. Dr. R. N. Harbin<sup>8</sup> reported 818 cases of appendicitis with a mortality of 4.6 per cent and said, "The gridiron is the incision of choice, and we have regretted less often using this incision than the rectus type." Dr. S. F. Cottle, quoted above, reported 800 cases with one per cent mortality. Dr. Hamilton Bailey<sup>1</sup> said, "It [the gridiron incision] is the best incision for the removal of the acutely inflamed appendix. It is occasionally of value as an avenue of approach in an acute abdominal catastrophe of uncertain origin. If unsuitable, the incision is readily closed." He quoted a 3.8 per cent mortality.

In my series<sup>3</sup> there were 859 cases operated upon with the gridiron incision with twenty-four deaths or a percentage of 2.79, which is below my own general average of 3.3 per cent. There were ninety-one cases operated upon with right rectus or midline incisions, and in these cases there were eight deaths or an 8.79 per cent mortality. In one case the type of incision used was not recorded. Furthermore, there were ninety-nine cases which might fit in with Dr. Knott's classification of localized appendix abscess cases. In this group there were two deaths, which makes the mortality for the ninety-nine cases with abscess slightly over two per cent, an exceedingly low mortality. The gridiron incision, ordinarily very easy to close, has a distinct advantage when abscesses are found, because when drainage is used the incision need not be closed at all,

thus favoring free drainage and lessening the dangers of the fascia sloughing.

After weighing the objections to and the advantages and disadvantages of the gridiron incision, I believe that the gridiron incision is indicated in all cases of appendicitis where the diagnosis is certain, and when no other work is to be done, and in cases of doubtful perforated ulcer of the stomach or duodenum when the symptoms suggest the possibility of appendicitis. I believe that the gridiron incision is contraindicated only when a diagnosis of appendicitis cannot be made, and when other work is to be done.

In conclusion I contend that the objections to the use of the gridiron incision in cases of appendicitis are not well founded, that it has advantages over other incisions in reducing hospitalization time, that the absence of embolism in my series of cases which have been got up early commands attention, that the mortality rates for appendicitis are lower when the gridiron incision has been used, and that it should be used in all cases of acute appendicitis.

### Bibliography

1. Bailey, Hamilton: Emergency Surgery. Abdomen and Pelvis, vol. 1, 1930.
2. Cottle, S. F.: Mortality in appendicitis. U. S. Naval Medical Bulletin, 30: No. 1, (January) 1932.
3. Davis, C. R.: Mortality in appendicitis. Jour. Mich. State Medical Society, 32:235-237, (April) 1933.
4. Deaver, John B.: An opinion on the present high operative mortality in acute appendicitis. Surg., Gyn. and Obst., 51:529-536, (Oct.) 1930.
5. Deaver, John B.: Review of five thousand four hundred and eighty appendectomies performed in the Lankenaw Hospital of Philadelphia. Ann. Surg., 79: 854-861, (June) 1924.
6. Gatch, Willis D., and Durman, Donald C.: A report on 262 consecutive cases of appendicitis. Ann. Surg., vol. 79 (June) 1924.
7. Greenwood, H. H.: The menace of appendicitis. The Lancet, 216:973, (May 11) 1929.
8. Harbin, R. M.: Acute appendicitis. A review of 818 cases with reference to factors of mortality. Med. Jour. and Rec., vol. 130, (July 3), 1929.
9. Hawkes, E. Zeh: Appendicitis. Surgical Clinics of North America, 6:1567-1573, 1926.
10. Knott, VanBuren: Treatment of localized appendicular abscess. Jour. A. M. A., 55: No. 5, (July 30) 1910.
11. Knott: Van Buren: Jour. A. M. A., 58: No. 7, (August 12) 1911.
12. McClure, Roy D.: Chronic appendicitis. Trans. South. Surg. Assoc., 43:331, 1930.
13. McNeill, R. J.: Abdominal incisions. Post Graduate Med. Jour., 8:79, new series, (May) 1932.
14. Mendonca, Jose D.: The technique of appendectomy. Surg., Gyn. and Obst., vol. 43, (August) 1926.
15. Quain, E. P., and Waldschmidt, R. H.: Acute appendicitis. Arch. Surg., vol. 16, (April) 1928.
16. Romanis, W. H. C., and Mitchens, Phillip H.: The Science and Practice of Surgery, second edition, 2:690, 1929.
17. Southarn, A. H.: A comparative study of abdominal incisions. Brit. Med. Jour., vol. 1, (March 22) 1924.
18. Tasche, Leslie W., and Spano, Jos. P.: An analysis of 700 consecutive appendectomies. Ann. Surg., 93: 899-909, (April) 1931.
19. Truesdell, Edward D.: The surgical treatment of acute appendicitis. Ann. Surg., 84:104-111, (July) 1926.
20. Warnshuis, Frederick C.: Factors influencing appendicitis mortality results in 11,400 cases. Jour. A. M. A., 86:469-471, (Feb. 13) 1926.
21. Wolfson, Wm. L., and Morse, Louis J.: Acute appendicitis of the severe type. A review of one hundred consecutive cases, with especial reference to the operative technique. Amer. Jour. Surg., vol. 40, (May, 1926).



## WELFARE MEDICAL SERVICE IN OAKLAND COUNTY\*

R. G. TUCK, M.D.†  
PONTIAC, MICHIGAN

In counties with a small population the poor were given, as a rule, medical care by their local physicians as the demand arose. In some of the counties, the physician was paid by the commissioners of the poor according to what they deemed adequate fees. Many times these fees were absurdly low as judged by pay granted others working for the same county. Many times excessive fees were demanded and grudgingly paid or cut to a lower figure. The physician sometimes felt that he must ask for a larger fee, as he knew that it would be reduced by a commission composed entirely of laymen.

This system caused a great deal of argument, bickering, and hard feelings many many times. As a consequence, the medical service was inadequate and many times entirely lacking. It also cast a reflection upon the honesty of the profession at large.

In counties of a larger population the usual method was to employ a physician either full time or part time, as the demand called for. Some counties endeavored to hire these physicians as cheaply as possible with little regard to ability. Others paid adequate, yes even princely salaries, but more regard was paid to political consideration than to medical qualifications. We are all well aware that this system didn't result in satisfaction on the part of the patient or the other physicians practicing in the same locality. In actual experience, we find that these dissatisfied patients refused to consult the county physician and either went without medical care or called upon the private physician who, through sympathy, administered to their wants and furnished his own medicine at a constant loss to himself. This resulted in many instances to near pauperization of certain physicians and their families, in localities where a large number of the population were indigent. Taken by and large, this situation was deplorable and something had to be done to correct it.

We have heard much about the New Deal in recent months and will, no doubt, hear much more in the future. As medical men, we should be ever grateful to the present administration for the attitude taken in regard to our problems. For if it wasn't for this effort to provide more adequate medical care, many physicians would be in desperate

circumstances today, we fear. To the best of our knowledge, this is the first time any administration has ever made any effort to consider this problem in its true light. We should not lose sight of the fact that this entire program was made possible by a sympathetic group of public officials. Federal Rules and Regulation No. 7 has proved a true godsend to our profession and to the unfortunates on Welfare relief rolls. The really surprising thing is that it was never put in effect before. Nor should we forget the sympathetic attitude and understanding of our State and local officials. The Welfare Commission in Oakland County are a group of intelligent individuals and their Administrator for the county has been most sympathetic and coöperative at all times. They wish the Welfare clients to have adequate, necessary medical care provided by a physician of their own choice or, in other words, are endeavoring to encourage normal family-physician relationship wherever possible. After all, the administration and the profession have the same ultimate objective, namely to restore sick Welfare patients to health. It would seem therefore, that where this program has failed, it must have been because of a lack of cordial relationship between these two agencies. In many instances the administration has objected to the size of the fees asked for doing this work. What they often fail to realize, however, is that cheap medical care frequently costs much more in the end than first class care does. In many places administrators report that "only the lower grade of physicians care to participate" and we feel that in these counties the public officials are not willing to pay reasonable fees. In Oakland County every physician and dentist have agreed and are now caring for our people in a highly satisfactory manner. One impor-

\*Read before Royal Oak Medical Society, October, 1934.

†Dr. Tuck is a graduate of the Detroit College of Medicine, 1917; he served in the U. S. Army Medical Corps, 1917-1919, and was in general practice 1919-1921. He is Medical Director Welfare Administration, Oakland County, for 1934-1935.



tant fact not to be overlooked is the educational effects of this program, as it should go far toward breaking down some of the old obstacles that have obstructed health programs. The community should become educated as to its responsibility for the care of the sick. The old tradition that medical care for the poor is something to expect without cost should be completely broken down.

We are told that many of these plans are experimental in nature and will be discontinued if found unsatisfactory. Therefore, it behooves us as medical men to demonstrate, in no uncertain manner, that we will not abuse this trust placed in us, and confine ourselves to that service which is classed as absolutely necessary to maintain the health of the patient. Unnecessary calls do the patient little good, the physician less good and prove a positive detriment to the reputation of an honorable profession. It seems to us that we should all endeavor to prove conclusively to these officials that as physicians all we want is to render necessary medical care. If we can prove this to be a fact, much of the misunderstanding existent in the past will disappear.

Many of our physicians are in the habit of making more calls than others do in treating the same pathological condition. We have no fault to find with this, but in a program such as this some standardization seems necessary regarding the number of visits needed for certain common conditions. In this, we should be guided by the majority and limit the number of calls of certain physicians to those considered adequate by the majority of the profession. The physician desiring to make more calls than would ordinarily be made by the profession at large, should be willing to accept fees for a similar amount as all the other physicians receive for the same condition. We realize that no one can set a certain number of visits as being all that is necessary in every case of the same illness. We are very much aware that individuals vary a great deal, all of which makes standardization impossible. However, the rule of a limit of ten visits for acute illness and one visit per week on chronic illness, seems to cover a large per cent of our cases so far. Exceptions must always be made when necessary and have been so made wherever it seemed logical. We feel that every physician should be

treated exactly the same as every other physician in this matter and have honestly endeavored so to do. Honest differences of opinion must arise in a program so varied as this, but these differences in opinion can easily be adjusted to the entire satisfaction of all concerned by consultation with the Medical Division. Feel free to come to our office at all times and we will endeavor to allow you the same consideration given to your brother physicians of Oakland County.

Good medical service, at the lowest possible cost to the taxpayer, is the aim of the Medical Division of the Welfare Administration. A reasonable fee schedule is one in which the physician should feel that he is receiving at least one-half of his regular minimum fee for doing this work. The Medical Society realizes that, as members of one of the oldest and most honorable professions, they have a sacred reputation to maintain. They do not or will not allow this reputation to suffer through the misconduct or dishonorable actions of a few of its members. They will effectively discipline their own erring or mistaken members far more efficiently and with greater degree of certainty than any layman could attempt. This is the crux of the entire problem and, where placed in effect, will create better understanding between public officials and organized medicine as a whole. The individual physician resents bitterly any attempt at dictation by a layman as to his ability to diagnose or treat diseased conditions of the human body and justly so. It has always been considered best that the "shoemaker stick to his last."

If the cost of medical care becomes prohibitive in the future, there remains but three courses to pursue:

1. Lower fees for all.
2. More stringent limitation of visits.
3. Return to the old system of contract physician.

From this you can see that, as physicians, we are on trial and our actions will determine to a great extent the permanent policy adopted by public officials.

In the world war, our army was composed of young, sound, healthy men whose ailments were for the most part of a minor nature. They, at least, were able to pass a rigid physical examination before entering the service. Anyone familiar with the routine army sick call will admit that it had

many undesirable features as far as adequate scientific medical care was concerned. Anyone holding such a sick call has frequently heard the many jibes hurled at him by a dissatisfied regiment of soldiers. That these jibes were entirely justified in many instances, we must all agree. The indictment, however, should have been directed at the system employed, rather than at the individual medical officer engaged in administering it, for, as a whole, the medical men were competent physicians and surgeons, judged by any of the known standards of the day.

Under the former system of poor relief as conducted in this county, an attempt was made to administer to the medical needs of Welfare clients in very much the same manner as was employed by the army, namely, holding a daily "sick call" for large groups of people. Many of these patients having to wait in line, sometimes out of doors in inclement weather, to get into the physician's office. No matter how well trained and qualified the physician might be, we must at once realize how utterly impossible it becomes for him to properly diagnose and treat such a large group intelligently or adequately, according to modern standards of treatment.

Again when one realizes that a majority of these patients are old and infirm and living under conditions which tend to break down their physical and mental equilibrium, is it any wonder such a system is in disfavor with the recipients of medical care? That this "mass production" method of caring for the sick was responsible for much discontent and unrest goes without saying. If the responsible heads of government admit a responsibility for the health and well being of Welfare patients, then they should endeavor to furnish medical care of such a nature that it will satisfy these unfortunates and not be prohibitive in cost.

Adequate medical care is just as much a necessity as proper clothing, housing, etc., and it has been proven, beyond question of doubt, that adequate necessary medical care is one of the cheapest commodities purchased today. It is the unnecessary, inadequate medical care which has proven so costly in some localities. This can be substantiated by facts and figures for all those in doubt.

The cost over a period of six months in

our county averaged  $1\frac{1}{2}c$  per day per person on the rolls of the Emergency Relief Administration. No one can say that this cost is excessive or prohibitive and it includes everything necessary for the care of sick persons in their home or physician's office. Namely: Physicians, dentists, nurses, drugs, surgical appliances (trusses, abdominal supports, orthopedic shoes and braces, etc.), glasses for those in need of them and false teeth where necessary to maintain proper health.

In our system of democratic government, the individual has always reserved the right of free choice of physician whenever he became ill. To force a strange physician upon such an individual is to court dissatisfaction and disaster in many instances. That this trait was ingrained in the minds of our people was evident from past experiences with salaried medical men, attempting to treat large numbers of people. They resented this type of care and openly voiced their objections wherever they congregated. Under the present system, which may not be the ultimate in perfection, by any means, the patient chooses his own physician or dentist and if not satisfied has but himself to blame. If he feels that he is not getting the proper care or attention, he changes physicians in exactly the same manner as he would were he employed and paying for these services himself. This tends to keep the physician alive to the fact that he should render first class service or run the risk of losing his clients and his reputation as well.

Thus this competitive spirit is kept alive and hence makes for better medical service. This is the spirit which has always existed in our country and accounts largely for the fact that America leads the world in medicine today. It would seem, therefore, that this competitive spirit should never be allowed to die, but be encouraged for the betterment of mankind. As said before, political rather than medical qualifications, sad to relate, have too often guided public officials in the selection of physicians in the past, but even in instances where qualifications were of the highest, the fact remained that the number of patients demanding treatment made it impossible to administer proper medical attention and care.

The spirit with which the medical men of Oakland County have entered into this program of medical care for Welfare



Clients deserves nothing but the highest commendation. They have responded with exactly the same promptness and have rendered exactly the same high type of service as they would give their most wealthy patients. This has been rendered at approximately one-half the fees collected from their regular patients, and speaks well indeed for the generosity and high sense of moral duty which goes into the makeup of American physicians in our day and age. Let public opinion pass judgment upon such a procedure. Do we find any other group of American citizens doing more? Do we find bank receivers or attorneys accepting one-half salary when called upon to render public services?

This is not uttered as a criticism of any of these groups but merely to point out that physicians have always and do now stand ready to do their part in any emergency whatever, and are not motivated by a mercenary consideration. That they should re-

ceive something for their services goes without saying as it is granted that any workman is worthy of his hire.

That this complete coverage of the medical wants of Welfare clients has resulted in entire satisfaction is worthy of consideration and should be reflected in a better citizenry of the future both physically and mentally. The physician feels that he is caring for his own patients and not having them weaned away from his office in time of depression as clinics and public sick calls have a tendency to do. After a lifetime spent in the slow building of a practice it is discouraging, to put it mildly, to see one's entire clientele slip away to a salaried government physician, perhaps never to return.

Thus it would seem that from a patient's standpoint, from a physician's and a social standpoint as well, this modern method of caring for the Welfare client is admirably suited and is a decided improvement over older methods.

## IDIOPATHIC MEGACOLON OCCURRING IN A WOMAN OF FORTY-FIVE YEARS OF AGE

E. J. RENNELL, M.D.†  
TRAVERSE CITY, MICHIGAN

This case is reported because of its resemblance to Hirschsprung's disease, which is considered to be congenital. The patient had been examined and under observation in the State Hospital for approximately five years before there were any signs or symptoms of the disease, which seems to rule out any possibility of its being congenital.

The patient was admitted to the Traverse City State Hospital on September 23, 1924, at the age of 40. The family and personal history is essentially negative except that in regard to her mental disorder, which is irrelevant. Physical examination at that time revealed a middle aged white female somewhat undernourished. The head was negative, a thyroidectomy scar present on the neck and also a right thoracic-left lumbar scoliosis. The heart and lungs were negative. Blood pressure 110/85. The abdomen was flat and there was a transverse scar just above the symphysis pubis, the result of pelvic operation. There were no masses, areas of tenderness, or any distention.

After a period of observation the diagnosis of psychoneurosis was made and the patient remained in the hospital.

Nothing unusual was noted in her physical condition until August, 1928, when there appeared a bilateral pitting edema of the ankles. Examination of the heart was negative. Urinalysis showed occasional hyaline casts and trace of albumin.

In February, 1929, the patient's abdomen became markedly distended and was found to be tympanitic over its entire surface. A high colonic irrigation was given and a large quantity of thin fecal material was obtained but the distention remained and several months later an exploratory laparotomy was performed. The entire colon was found to be dilated, about six inches in diameter, and there was no evidence of obstruction. Other abdominal or-

gans appeared normal. There was an uneventful convalescence but the abdominal distention persisted. The patient was given frequent cathartics and enemata at irregular intervals, and her only complaint was that of constipation until July 14, 1934, at which time she complained of considerable abdominal discomfort and remained in bed. Temperature was found to be 103.6. Examination showed her abdomen to be enormously distended, more so than usual, tympanitic, and the outline of what was thought to be the ascending colon could be clearly seen extending from the crest of the ilium to the right costal margin. Several enemata were given with good results but the distention and discomfort persisted. On the following day the temperature gradually dropped until it became sub-normal and the patient expired.

An autopsy was performed which showed the following:

*General Appearance:* Elderly white female. Well nourished. Face cyanotic. Abdomen extremely dis-

†Dr. Rennell was graduated from the University of Michigan Medical School in 1932. He specializes in psychiatry, and is at present on the Medical Staff of the Traverse City State Hospital.



tended and tympanitic. Old incisional scar extending from the umbilicus almost to the symphysis pubis and laterally from that point several inches on each side.

*Main Incision:* The main incision reveals the colon to be very much distended and bursting forth through the incision. The diaphragm was pushed upwards to about the level of the 6th rib and the thoracic contents were very much compressed.

*Right Lung:* 290 gms. Normal in appearance. Crepitant throughout. Cut section revealed some congestion.

*Left Lung:* 200 gms. Similar to the right in all respects.

*Heart:* 300 gms. Normal in appearance and size. Cut section shows all the valves to be intact and of normal size.

*Liver:* 1175 gms. Appears to be normal in size and appearance. Cut section reveals considerable congestion.

*Spleen:* 80 gms. Somewhat smaller than normal. Cut section shows congestion.

*Right Kidney:* 175 gms. Long and narrow. Pelvis appears to be much dilated. Cut section shows normal kidney architecture.

*Left Kidney:* 150 gms. Similar to the right in appearance. Pelvis and ureter considerably dilated.

Pelvis filled with urine. Kidney structure quite normal.

*Stomach:* Hour glass in shape. Moderately distended with gas.

*Small Intestine:* Moderately distended with gas.

*Large Intestine:* The entire colon is markedly distended throughout its entire length, but more so in the transverse and descending region, where its diameter is approximately 6 to 7 inches. Its length is also increased to approximately 13 or 14 feet.

The proximal portion of the colon is distended with gas and the descending portion filled with impacted feces. In the transverse and a portion of the descending colon, is an area approximately 5 or 6 ft. in length, which is of a dark greyish brown color and has lost its translucency.

*Genital Organs:* Uterus and adnexa are atrophic.

### Summary

1. Megacolon occurring in a woman forty-five years of age who has been under close medical observation and had previously showed no signs or symptoms of the disease.

2. Death resulted from impaction of feces and resulting gangrene of the colon.

3. Autopsy failed to reveal any obstruction.

## AS SEEN ABROAD\*

JULIUS POWERS, M.D.  
SAGINAW, MICHIGAN

In considering Vienna, one should be a historian. We visited the Belvedere Palace. This starts with an archway and beautifully illuminated fountains. Then going up a series of terraces and paths, one comes to the palace, a beautifully symmetrical structure. It is one of the greatest structures in all of Europe, planned and built as a reward for the services of Prince Eugene of Savoy, the soldier of fortune who worked his way to the office of General of the Austrian army, defeating all comers for fifty years. Back of the palace is an artificial lake which gives a good mirror reproduction of the palace. Prince Eugene started a collection of wild animals which was the nucleus for the present zoo. That was later moved to Schoenbrunn. Most of the palace is now open to the public. The famous paintings and frescoes are a remnant of grandeur seldom equaled in the world. It is interesting to note that the Prince rarely stayed in the palace, but preferred living in a tent.

North of Vienna is the Schloss Cobenzl. This was built at about the end of the 18th century by Count Cobenzl. It is a wide building standing all alone up in the mountains. It now is used as a hotel and cafe. Guests are served on the veranda, giving them an inspiring view of Vienna and the surrounding mountains. On the way up, going through Grinzing, we noticed places with a spray of evergreen hanging out. This was an emblem denoting the sale of Hurrigen,

a new wine, which is a delicious drink with a terrific kick.

About the middle of November the store windows start to show "krampus." This is the red devil who calls at all houses December 6, and proclaims the naughty things that the children have done and gives them a switching. Just at this moment, in walks St. Nicholas and drives the "krampus" away. Many shapes and sizes of "krampus" are on display.

The people of Vienna are very courteous. Almost painfully so. An ordinary purchase brings forth many "thank you's" and phrases often ending by saying, "kiss the hand." The gallant young Viennese often kisses the hand of his lady friend when out in a cafe.

Our pension has an important character, a porter. When we get in after 10 P. M., it is necessary to subsidize the porter 40 groschen

(\*Concluded from January JOURNAL.)

to get the door unlocked. To ride in an elevator the cost is 20 groschen.

In calling on or staying with a friend, one must be sure to tip the servants. One should not sit on a lounge in a home without invitation because that is an honor especially reserved for distinguished guests. It is perfectly good form to stand up in an audience and stare around as though looking for some one. Eating lunches and drinking beer during shows, also smoking, are common practices. Walking and hill-climbing are the most common pastimes. Men and women wear heavy cleated boots something like those of Michigan lumberjacks. These prevent slipping on the hills. Beggars are aplenty. I saw one today who stood at least three hours holding a baby, about a year old, wrapped in an old shawl.

People here do not seem to mind the cold as we do in the United States. One of the doctors pointed to a girl on the street car and said, "I'll bet she is from the United States." I asked, "Why?" He answered, "Notice those American stockings. Now watch and she will cross her legs." She did. I have never seen a Viennese woman sit with legs crossed.

The women are rather free here but with 800,000 more women than men, what more could one expect? Franz Joseph was a great admirer of pleasingly plump women, so no one apparently tries to diet. The added weight detracts from their grace and forms thick, stocky legs.

Hospitals are not full. Too much territory has been taken away from Austria even to leave enough to fill hospitals. Cadaver material is very scarce right now.

Schoenbrunn was the most popular of all the palaces, probably because of the wonderful Glorianna Fountain and the exceptional lay-out of the gardens with the closely-cropped trees and myriads of flowers. This stands as a monument to the skill of Marie Theresa. In fact, true Austria and Marie Theresa are synonyms. The palace is now a public museum. One portion of the garden has been converted into a zoo.

On a trip through the palace in old Vienna, several outstanding things were seen, among them wonderful old tapestries and brocades, two to four centuries old. Many were from Belgium and France as well as Vienna. The palace, as a whole, is a rambling sort of place. Several sovereigns con-

tributed additions, and when they came to a street they bridged over it. The pictures were not as appealing as those seen in many other places. The crown jewels and the plate is something one can never forget. There are solid gold knives, forks, and spoons of all sizes; solid gold serving dishes of many sizes and a multitude of designs; gold decorated glassware to match, and not just dozens but hundreds of these. Then came the same layouts in solid silver with marvelous designs in both silver and glassware to match. Farther on came the table decorations in gold and silver, and combinations of gold, silver, and china. One clever set was a series of mirrors about a meter square and mounted on intricately carved bands of gold and so arranged that they could be placed end to end making a solid mirror some 10 meters long. On these were placed urn-like pieces very carefully wrought out of gold. Some of these were designed to hold flowers, and others had series of containers to hold fruit and sweets. It is said that Franz Joseph was very proud of his mustache and that all the silver and steel must be polished so he could see the reflection of it. The thought came to me that Emily Post would have to issue a new edition if many of us were to dine where this array was used.

During the day one rarely sees a dog in Vienna. The few we do see are muzzled or on leash, but early in the morning and about 7 or 8 o'clock at night, hundreds of dogs are led out on the streets. It is a startling example of what we sometimes call "habit time." The end-result of these promenades is very evident until street-cleaners come through. It is said by the Viennese to be good luck to inadvertently step in this. From my personal experience, I would say that people here should be very lucky.

Whenever a great pestilence struck Vienna, it seems that the ruling monarch would make a vow to build some monument if the pestilence would subside. Thus we have fountains and monuments, and lastly an entire church, the Motif church. An interesting thing concerning this is that they built an altar that was, in grandeur and intricate workmanship, a marvel, but alas, it was too big for the church so it was necessary to place it in another church which was big enough to accommodate it.

A doctor came from Berlin, where he had



an interesting experience. He was dining in a cafe when in came Herr Hitler and sat down across the room from him. This was not known to him. He had just purchased a light finder or exposure meter for his camera, and while sitting at the table he wanted to demonstrate it to a friend. They happened to focus it on a light over Herr Hitler's table. Immediately two guards came and sat back of him with their hands in their pockets, which were bulging as though with a gun pointing at the doctor. The waiter came up and said to the doctor. "There has been a mistake in identity, but just sit still and do not try to leave until after Herr Hitler leaves." When the doctor arrived at his hotel, he found his entire effects had been searched and were strewn around the floor. There was nothing to do about it, but smile and laugh it off.

In conversing with natives of Vienna, one is struck with their firm belief that everything worthwhile in art, literature, science, and especially medicine, originated in Vienna. Many antique stores are here where the old aristocrats take their family heirlooms to sell for enough money to live on. The longer I am here, the more hopeless and helpless poverty is forced in front of me. Generally the people are well shod, but the clothing one sees on both men and women is of the cheapest materials. Some of the really thinking people will even say that only another war will save Vienna.

On leaving Simmering we took the sleeper, which in many ways surpasses our American sleepers. The berths are crosswise of the car, and one has an apartment to himself or two may occupy an apartment. The exceptionally nice thing is the private wash-bowl in each apartment.

In the morning we ran into a heavy snow-storm, thus giving a picture of the Alps first green and later snow-covered. Later in the morning the sun shone on those white mountain peaks, making a marvelous picture. So we figured the weatherman was unusually kind to us. We arrived in Venice about noon. Everyone has read so much about it that I hesitate to say much. However, one must actually see it to realize what it is. We were taken by gondola to our hotel. In the afternoon we had a guide who showed us the "Bridge of Sighs," "Duke's Palace," and the magnificent St. Mark's Cathedral with the famous mosaic work

where St. Mark is buried. The excellency of the pictures and biblical scenes that have been worked out in this building is almost unbelievable. The marble of one wall reminded one of the Michigan furniture workers and their veneer. The marble was split like the leaves of a book and spread, making symmetrical figures on each side.

The needlework and jewelry and embossed leather were very evident in store windows. Some of the embroidered shawls appeared to the eyes of mere men as being of superb quality and design.

We were especially impressed with the beauty of the women of Venice as compared to men. They all seemed so simple and well-meaning. They say Venice is one of the safest places in the world to live, as far as crime goes.

The next day we left for Naples via Rome. Trains from Rome to Naples are crowded. We arrived in Naples in the evening. Next morning we went to Pompeii. There we saw the excavated ruins we have all heard so much about. The fact that most of the findings in the shape of money, jewelry, et cetera, have been moved down to Naples, detracts from the actual visit to Pompeii.

From Pompeii we went over the mountains to Amalfi. This road is a real engineering feat. To one accustomed to the flat roads of Michigan, the hair-pin turns and sneaking along the edges of precipices was a real experience. A stone wall three feet high is built along the outside of this road. At several turns portions of the wall were broken where a car had skidded and knocked out a few stones. None had gone over. Throughout this drive, we were impressed with the fact that every foot of tillable land was used even though some plots were almost inaccessible. As a blot on the natural scenery, one sees many orange and lemon groves with roofs of limbs and branches built over them to prevent frost and promote a gradual ripening for market. Considering the amount of fruit here, it is very high. On the street one pays much more than we do in California.

Just now the wine presses are busy and all along we met casks, bottles, and kegs of wine. A girl, about twelve years old, came by carrying a two-gallon bottle on her head. She turned and watched us, then went down the road never once offering to touch the



bottle with her hands. High up we met women barefooted carrying large bundles of faggots on their backs. At several places we saw small lime kilns where they were burning the limestone to make lime. Wood was used almost entirely as fuel for this purpose.

After lunching at Hotel Santa Caterina and picking some oranges, we proceeded to Sorrento. The drive skirted the cliffs along the Gulf of Salerno and gave us a constant view of the water. Every few miles we came to old watch-towers erected in the days of pirates to give warning by means of bells of their approach. Sometimes we feel there still should be some watch towers to warn us tourists.

At Sorrento we went to the large factory which makes articles of wood inlays. These, of course, were very fascinating. Then we saw displays of handkerchiefs, all hand made.

The constant necessity of bartering for a reasonable price takes some of the joy and a lot of time out of a vacation. Many merchants eventually cut the price 50 per cent.

We drove back to Naples in the dusk. In the evening I went to a variety show. The dancing was not as graceful nor as well directed as in the United States, but was rather more suggestive. The prices are very high. On leaving, I felt I had been "taken for a ride," especially after paying \$1.00 for a package of cigarettes. On returning to the hotel about 11:30 p. m. we passed two boys, about eight and ten years of age, curled up next to a wall and sound asleep. A native told us this was common. Boys who did not get on well at home just left home and begged their living and slept anywhere they happened to be.

The Naples museum, with its priceless treasures from Pompeii, and other collections, is one of the most interesting I have ever visited. One of the most interesting collections was that of surgical instruments. A trivalve speculum was the most intricate. The famous lewd pictures have been closed to the public for three years, so one misses that misery. An enterprising man has copies for sale just across the street.

On leaving the hotel, one must run the gauntlet of taximen, cab drivers, special tour offers and men representing the underworld. This latter group is a left-over

from the old wide open days when Neapolitan life was quoted the world over. The present government has done much to reduce this sort of thing to a minimum.

One leaves Naples with a new concept of life B.C. One gets the impression that there really has been very little advancement since that time here in Naples.

We left Naples early in the morning for Rome. Here again so much is known about Rome that I can add but little. We did the routine sightseeing. In 1929, the government started new excavations and now has established a guard over a large area which is to be excavated later. No one is supposed to do any digging in this area. The owners may dig to a depth of three feet and may keep, but not sell, any treasure uncovered. Any treasure discovered more than three feet deep belongs to the government.

In order to widen and straighten a road, an old Jewish cemetery had to be moved. There was so much excitement over this that the government finally had to move the whole cemetery.

The present Ghetto is to be moved into new sanitary quarters as soon as they are completed, and the old Ghetto is to be torn down. I cannot help but admire the wonderful things Mussolini has done in improving the city. At present a rule prohibiting the blowing of auto horns is being tried. At least the city is not noisy as Naples is. At a church, just outside the old wall, is a tablet giving notice of the return of this church to the Vatican. The date is given as year A.D. 1933 and after Facista 11.

This morning we saw a company of young fellows doing "setting up exercises." This is to make them physically fit to join the army next year.

The people here seem very well dressed and prosperous. However, I am told that the people in cities are well taken care of, but that small town folks are suffering because there is no exporting of their products. The cost of living here in our money is certainly high. One scarcely dares to buy in stores because things are so high. While the stores kept open all day Sunday before Christmas, there did not seem to be anyone buying much.

There are not nearly as many cafes and restaurants in Rome, nor in Italy, as in the northern countries, and they are occupied mostly by men; very few women.

Seats in churches seem to be unknown here. The people stand throughout mass. No one kneels. Several women are seen with handkerchiefs laid on their heads to conform to the rule that all female heads must be covered while in church. On Christmas eve I went to midnight mass at Santa Maria Maggiore Church. This is the oldest Catholic church in the world and has an altar that rivals that in St. Peter's. The building was packed with as many as it could hold. This particular church has preserved some of the wood said to have come from the manger where Christ lay, and on Christmas the gold case containing the wood is brought out by means of a very impressive ceremonial and deposited on the altar. Following this, the Cardinal conducts mass. The grandeur of the robes and church ornaments was beyond power of word description. Several priests have beards, which appears odd to an American.

Mussolini is already working on grounds and amphitheater, which will be used for Olympic games in 1940. The stadium will hold 180,000 when completed. The whole area will have the type of construction we know as Roman, with a very evident modernistic touch. To give one an idea of the massiveness of the plans, one road is to be lined with statues of each of the sixty-nine kings of Italy, all to be produced by artists of today.

Our first great disappointment came as a result of a new ruling of the Vatican. During the years that the Vatican was under the control of the state, the art galleries were open except on holidays, but this year they are closed for the entire week of Christmas, which prevented our realizing one of the chief objects of our trip to Rome.

The Italian language has many words ending in vowels. This is well illustrated in the English used by some of our guides.

The stop and go lights at street corners are operated by a policeman standing at the curb or on the sidewalk next to the building, where he pushes a button to change the lights. Traffic cops wear white gauntlet gloves, which makes his signals very easy to follow.

Very few here speak English, but many speak French. We have had sunshine every

day while here, so it must be Rome that originated the expression, "Sunny Italy."

To me the biggest blot on the landscape of Rome is the Hall of Justice. This is of modern construction and appears to be a hodge-podge of several types of architecture with a lot of gingerbread thrown in.

From Rome to Pisa the trip is uneventful. The train follows the coastline. At Pisa is the "Leaning Tower," also the statue to Galileo and "Galileo's Lamp."

From Pisa to Genoa the road was lined with marble works of various types, both slabs and sculptures.

We arrived in Genoa late in the afternoon, December 26, and found every store closed because of box day. It seems that every working man, or mail man, expects a present on this day and as it is usually in a box they call it "box day." Because of the day and week we found a big entertainment fair going on. It was an outfit similar to those we find in America, going from county to county. The very noticeable thing was the large number of shooting galleries of various types, showing how military-minded the population is.

The following morning we climbed the gang plank of the Rex and bade goodbye to Italy.

\* \* \*

#### REASONS WHY WE ARE KNOWN AS AMERICANS

1. Our clothes fit better.
2. Our topcoats are of material strange to Europe.
3. Rubber heels. Tan shoes.
4. Our choice of foods.
5. Language difficulties.
6. Inability to make change rapidly.
7. Hexagonal glasses.
8. Large amount of water we drink.
9. Our courteous treatment of women.
10. The shops we frequent.
11. Our lack of demonstrativeness over what we see.
12. Walking with our topcoats open.
13. We are more liable to fail to wear gloves and go bareheaded.
14. We have a tendency to pull our hats down, shading the eyes, instead of wearing them more on the back of the head.
15. Our short time devoted to meals.
16. Our habit of keeping our hands in our pockets.
17. Intonation is more abrupt and harsh to the ear. Not as smooth and musical, and not as high-pitched as in southern Europe.
18. Our visible annoyance at delays and slowness.
19. Method of knife and fork holding and using knife as a pusher.
20. We require butter.

# THE JOURNAL

OF THE

## *Michigan State Medical Society*

---

### PUBLICATION COMMITTEE

J. EARL MCINTYRE, M.D., Chairman.....Lansing  
 A. S. BRUNK, M.D.....Detroit  
 HOWARD H. CUMMINGS, M.D.....Ann Arbor

---

### Editor

J. H. DEMPSTER, B.A., M.D.  
 5761 Stanton Avenue, Detroit, Michigan

---

### Business Manager

B. R. CORBUS, M.D.  
 2642 University Avenue, St. Paul, Minnesota, and  
 313 Metz Building, Grand Rapids, Michigan

---

FEBRUARY, 1935

---

## EDITORIAL

### MEDICAL ECONOMICS

The medical profession is becoming more concerned with factors that enter into the economic side of medical practice, a fact much in evidence at any meeting which is called to discuss medical economics; the attendance is limited often to "standing room only." Elsewhere in this number of the JOURNAL appear several papers dealing with a number of diversified subjects which are of more than local interest. They are, however, concerned with subjects perhaps of greater concern to the urban rather than to the physician whose practice is in the country.

The Afflicted Adult's Law and the Afflicted Child's Law (two separate and distinct acts) are described with great clearness. Both are of somewhat long duration, antedating the term of office of any present member of the council of the State Medical Society or any officer now active. The laws have been amended to permit hospitalization and treatment in the counties in which patients reside. The Afflicted Child's Law as amended, however, is somewhat tentative in its operation, covering as it does a period of two years, at the expiration of which, July next, it will be subject to reconsideration. Patients coming under both these laws were formerly sent to the University Hospital for medical and surgical treatment. The change was an attempt at civic economy that would

at the same time aid local hospitals. In most instances, however, it has been no aid to local physicians who as staffs of hospitals are expected to give their services without remuneration. Under normal times the burden might have been borne without complaint. These are, however, not normal times so that the charity of physicians has been worked to the breaking point. The hospital has received all the remuneration and the doctor none. There are of course exceptions.

The doctor feels that he is burdened with almost every kind of tax while the hospital pays none. Incidentally he is responsible for his torts and must carry medical defense insurance to protect even medical and surgical service rendered gratis in the hospital. A vacant room or a vacant ward in a hospital adds practically nothing to the general management of the entire hospital. A doctor's vacant office, however, is a different matter. The overhead expense goes on. The doctor has a real grievance when he is compelled to bear personally what should be a community obligation. There ought to be sufficient sense of fairness in the minds of those responsible for county budgets to see that the doctor as well as the hospital is paid for the kind of services mentioned.

Another matter stressed by one of the speakers is the inroads made into the legitimate field of medicine by the practice of medicine by hospitals and by corporations, contrary to law. This does not include all hospitals nor all corporations. As already mentioned, hospitals enjoy certain privileges. It would seem that all that would be necessary would be to draw their attention to the matter to effect an amicable solution. The hospitalization with professional care of such as tonsil patients or obstetric cases at a flat rate is unfair not only to the staffs of the hospitals indulging in the practice but to all practicing physicians, including those not on hospital staffs.

### STRANGE BEDFELLOWS

A news item in the daily press on December the twentieth announced that for the first time in history British doctors had become affiliated with the Trade Unions. The Trade Union Congress, according to the item, stated that it had enrolled 3,847 members of the Medical Practitioners' Union, chiefly municipal health officers and 7,788



members of the National Union of county officers including health officers.

The item did not inform us, however, what the reaction of the British Medical Association towards this movement has been. Associations and organizations of doctors as understood in America have stressed the subject of the general improvement of the medical profession, particularly in regard to medical science and clinical practice. The purpose has been solely to advance the interest of the country in the way of better medical care. Little or no thought has been given to the matter of securing for the members shorter hours or better remuneration.

The Trade Union ideal, at least to those who can be classified as neither laborer nor capitalist, has seemed to be limitation of output, together with a shorter working day and increased remuneration. There have been times when workers with real ability and the laggard were accorded the same reward; and at times the attitude of both capital and labor has ignored the just rights of that great third party without whom both would find existence a matter of difficulty.

Not conversant with the British background, it is impossible to speak or to write with any degree of assurance in regard to what this latest move on the part of such a large section of the British Medical profession may mean. Sometimes we find strange bedfellows. The instrument that labor has used to enforce its demands when collective bargaining has failed has been the strike, and that of the capitalist the so-called "lock-out." The medical profession occupies a position in all civilized countries that is unique. They can not strike. The traditional lineage of the profession forbids it. *Noblesse oblige*, and the obligation is to render service where ever required regardless of financial reward.

### CREDIT RATING

Professor Converse of the University of Illinois has made an investigation of credit men's reports. His findings have been arranged by the National Association of Finance Companies on a percentage basis. Thirty-four occupations have been included in the study. They are, showing the percentage of good risk, as follows: office clerks, 92; retail grocers, 90; store managers, 89; other retailers, 89; school teachers, 86; railway trainmen, 86; railway shop-

men, 85; retail clerks, 83; dentists, 82; doctors, 80; nurses, 71; farm owners, 71; factory (men) 70; travelling salesmen, 69; gas station men, 63; factory (women) 61; lawyers, 61; auto mechanics, 60; janitors, 60; tenant farmers, 59; brickmasons 59; fire and police, 58; railway trackmen, 58; coal miners, 57; college students, 56; domestic servants, 55; carpenters, 53; hotel help, 48; auto salesmen, 47; common laborers, 46; restaurant help, 45; barbers, 43; truck drivers, 43; painters and decorators, 38.

These average credit ratings are of interest to physicians, yet there are exceptions to every rule, and the barber and truck driver sometimes give an extremely good account of themselves. So far as remuneration for medical services is concerned there are two classes of patient. The better class pay promptly; the other meets all obligations in the proportion to the degree of pressure that is apt to be applied to them. The electric light, gas, telephone bills received first attention and so on down or up. The friendly and intimate professional relation of doctor and patient sometimes redounds to the detriment of the former when the time of financial reckoning comes.

### MEDICAL AUTONOMY

The importance of leadership within the profession has been stressed. In the great scheme of medical organization in this country, the county medical society is the society of immediate concern to the medical profession. A little more remote is the state medical society, then the American Medical Association. The state medical society is the federation of all county medical societies, the American Medical Association is the federation of all state medical societies. There is nothing new in this relation; it is an analogous to the county, state and nation nexus in the civic and political system. The medical profession is composed of independent individualistic minds. There is a tendency towards the doctrinaire, in which the physician has his own thought-out solutions for the problems that beset the medical profession. We believe that there should be greater unity and that leadership, or, to borrow a term from statecraft, "sovereign power," so far as the scientific and clinical phases of medicine are concerned, should be exercised by the profession itself. Business or industry or banking does not appoint doc-

tors as such on deliberative boards to take part in their discussions. While the relations of the medical profession with the non-medical groups should be most cordial, medicine should manage its own affairs. We would emphasize the importance of the best medical care possible, but, while doing so, the interest of the medical profession as a group is entitled to thoughtful consideration. Any plan of health insurance or health service should include every general practitioner and every specialist in the county who is willing to participate.

**G. CARL HUBER,  
ANATOMIST, 1865-1934**

Few teachers acquire both the esteem and affection which G. Carl Huber enjoyed. Primarily a teacher interested in the personalities and problems of his students, he was in addition a well-rounded scholar and an able administrator. In forty-seven years of teaching, he has given thousands of medical students their introduction to the mysteries of human structure. His students will remember him as a handsome and distinguished figure who patiently devoted himself to helping them. His lectures, though apparently simple and direct, were effectively organized. Through blackboard sketches, reconstructions and sometimes amusing contortions of his hands and a piece of towel, even the most difficult subjects were clarified. Students could not but be conscious of the presence of a master. Professor Huber's teaching was thorough, and few subjects, indeed, were given other than the most careful and detailed descriptions. Attention was directed, not to the amassing of detail, but rather to the acquisition of well-rounded concepts. He continually emphasized the limitations of knowledge which our present research methods entail. Though his personal interest in the subject was broad, he refused to indulge in speculation. He would not attempt to draw functional or metaphysical conclusions from purely anatomical data.

Professor Huber's manner was suave, though there was something in it of a rugged forcefulness which commanded respect and rendered discipline unnecessary. Beyond this, one was aware of a warm sympathy and kindly good humor. Even in the later weeks of a tormenting and debilitating illness, his manner changed little. He con-

tinued his teaching with a courageous cheerfulness long after he was forced to discontinue his other activities. His students affectionately referred to him as "Daddy Huber."

In his research career, Professor Huber attained a preëminent position. Over sixty masterly publications, each in a flowing, easy style, remain as a monument to his industry. Anyone who has had the privilege of studying Dr. Huber's slides can testify to the beauty and surprisingly minute accuracy of the figures with which his papers are illustrated. The first seven years of his research dealt primarily with the degeneration, suturing and transplantation of nerves. These were followed by a period of intensive study (1897-1901) on the histology of the sympathetic nervous system and of motor and sensory nerve terminations. During the first three years of the present century, there were studies on the histology and development of neuroglia, sweat glands and gastric glands. From 1905 to 1911, one of the most important contributions of American anatomy appeared in Dr. Huber's studies on the structure and development of renal tubules. In these, as in other studies, the broad comparative anatomical viewpoint was evident. Huber's attention from this time until the United States entered the war was devoted to a wide variety of investigations. He studied the seminiferous tubules, the nervus terminalis, in addition to continuing his investigation on sensory nerve endings and the sympathetic system. It was during this time that Huber's careful papers on the early development of the rat and the development of the notochord appeared. During the war period, in connection with the Army Medical Department, he turned his attention to tireless studies on nerve repair. More recently, along with Dr. Elizabeth C. Crosby, Huber began a comprehensive series of studies on the comparative anatomy of the central nervous system. At the time of his death, a book, the most extensive survey of the subject in any language, was being prepared for the press.

Dr. Huber was a meticulous technician and his microscopic preparations show a consistently high quality which is seldom equaled. He innovated several staining techniques, and introduced the Born wax plate reconstruction method into this country. By the so-called "water-on-the-knife" method



which he devised, serial microscopic sections as thin as two micra could be produced.

Most students and physicians will remember that Dr. Huber was responsible for the English translation and revision of Bohm, Davidoff and Huber's Histology and for the new edition of Piersol's anatomical textbook.

As an organizer, Professor Huber, since 1903, laid the foundation for anatomical courses at the University of Michigan. His broad viewpoint and his desire to make a knowledge of anatomy available to students resulted in dissection not only for medical and dental students but also for students of nursing, art, zoölogy, speech and physical education. As Dean of the Graduate School since 1928, he proved an efficient administrator. Many of his dreams for extending and improving graduate study were, however, thwarted by the retrenchment into which the university was forced during the depression period.

Though Professor Huber will be known to an increasing circle as one of the finest of modern anatomists, his friends and students will remember him as a remarkable man whose kindly mien has been an inspiration.

#### IMMUNIZATION OF SCHOOL CHILDREN AGAINST WHOOPING COUGH

J. M. Frawley, Fresno, Calif., has given prophylactic injections of 8 c.c. of active undenatured *Hemophilus pertussis* antigen to a group of 505 non-immune school children. Injections were followed by practically no local or systemic reaction. Since vaccination, these children have been kept under observation. Forty-nine have been exposed to whooping cough without developing symptoms; sixteen were exposed at home and thirty-three at school. In thirty-one children, whooping cough developed. In twenty-five cases the paroxysmal stage was of less than one week's duration, in five cases of from one to two weeks' duration, and in one case of two weeks' duration or more. As controls, 174 nonvaccinated children from the same homes and classrooms who had whooping cough during this period were classified on the same basis as the vaccinated children. The duration of the paroxysmal stage in these cases was as follows: In nine cases it was less than one week, in forty-nine cases from one to two weeks, and in 116 cases two weeks or more. (*Journal A. M. A.*, Sept. 29, 1934.)

*"Scholarly and pious persons, worthy of all respect, favor us with allocutions upon the sadness of the antagonism of science to their mediæval way of thinking, which betray an ignorance of the first principles of scientific investigation, and an incapacity for understanding what a man of science means by veracity, and an unconsciousness of the weight of established scientific truths, which is almost comical."*

—THOMAS HENRY HUXLEY.

## A MOMENT OF MEDICAL HISTORY

W. T. D.

### RADIUM

Radium has become an important adjunct to modern therapy. In the discovery of radioactive substances, in the early physical and chemical studies on radium and in the medical application of the element, the x-ray was an important antecedent.

Roentgen first detected the x-rays from the manner in which platinum barium cyanide fluoresced when placed in the neighborhood of a Crookes tube through which was passed an electric current. Later, he made studies on the photographic effect of the radiation, including the famous photograph of his wife's hand. Though the popular press and the medical world were immediately interested in the photographic and therapeutic effects of Roentgen radiation, scientists did not forget the fluorescent phenomena which the rays elicited.

Henri Becquerel was impressed with the similarity between the fluorescence of platinum barium cyanide caused by the x-rays and the phosphorescence of certain salts following a period of exposure to sunlight. In the first case, the fluorescence was caused by invisible radiation; in the second, by visible radiation. He wondered if it were not also possible for visible light to cause substances to emit an invisible type of phosphorescence. Many years before, A. Niépce de St. Victor, an early investigator in photographic chemistry, had discovered that uranium salts caused fogging of unexposed photographic plates. Becquerel (1896) repeated and extended these experiments. He placed uranium salts, particularly a double sulphate of uranium and potassium, first in the sun and then adjacent to unexposed photographic plates. The plates became darkened. He believed that solar radiation was in some way absorbed by uranium to be slowly emitted as an invisible phosphorescence. He found that the invisible radiation of uranium passed through opaque sheets of aluminum, copper and black paper. Images of coins similar to those produced by x-ray could be obtained. Substances, such as paraffin, aluminum,



quartz, copper and lead, placed over a photographic plate absorbed the radiation in different degree, the heavier substances more than the lighter. The radiation ionized the air and discharged a gold leaf electroscope. Further study showed that the uranium salts did not require a preliminary exposure to sunlight to make them emit radiation. The radiation was apparently an intrinsic property of the salt.

Continuing the investigations of Becquerel, Marie Sklodowska Curie, the thirty year old wife of a young French physicist at the Paris Municipal School of Chemistry, studied the phenomena. Discarding, for the time, the photographic methods of Becquerel in favor of the electroscopic method, she made a thorough survey of hundreds of chemical compounds to see if other substances than uranium showed radiant phenomena. By means of an electrometer, the relative amounts of radiation could be measured quantitatively by ascertaining the degree of ionization of the air. The first publication of 1898 demonstrated that thorium compounds were also potent sources of radiation, a fact which was independently discovered by G. C. Schmidt. It was further observed that pitchblende and chalcocite, natural compounds or ores of uranium, had a greater radiation than all other compounds. Chalcocite, a phosphate of copper and uranium, when prepared in the laboratory, emitted only a small fraction of the radiation of the natural ore. Mme. Curie explained that the radiation of uranium and thorium compounds might be due to the re-emission by these heavy elements of space born rays similar to those of Roentgen.

In a second publication (July, 1898), the two Curies, husband and wife, turned their attention to pitchblende, which had been demonstrated to have two and a half times the radiant activity of uranium. Since the ore was so highly active, they believed that the uranium salts might be accompanied by minute amounts of an adulterant with very great radioactive properties. In attempting to isolate this unknown substance from pitchblende, they treated the ore with chemicals and at each stage of the procedure they smeared the soluble and insoluble fractions of the reactions on the condenser plate of an electrometer to determine in which fraction the strongly radioactive substance might be found. When this substance was determined,

it was discovered to have chemical properties identical with bismuth. By sublimation, the radioactive substance could be separated from bismuth as a pure salt. It was four hundred times as radioactive as uranium. Following a spectroscopic examination by Demarçay, the substance was called polonium, a new element.

A further study of the chemistry of pitchblende in which the Curies obtained some assistance from the chemist, G. Bémont, was published in December, 1898. Barium salts occurring in a residue from pitchblende were found to be accompanied by minute quantities of a highly radioactive substance. Because of the relatively low solubility of the latter, it could be separated from barium by fractional crystallization. Spectroscopic examination proved that it was a new element. It was called radium, because it was many thousand times more active in its radiation than uranium, thorium or polonium. Since it is so highly active, more attention has been given to it than to other radioactive elements.

Studies on the properties of radioactive substances were continued toward the end of the nineteenth century by the Curies and Becquerel among others in France, by Rutherford and Soddy in England and by Geisel in Germany. At this period, it was discovered that the radiation from radium was a complex of three types of ray: atomic nuclei, bearing a positive electric charge, negatively charged electrons and light waves of extremely short wave length. According to the terminology of Rutherford, these came to be known as alpha, beta and gamma rays, respectively.

Further study revealed the mechanism by which radium emitted radiation. Over a period of about seventeen hundred years, one half a given quantity of radium breaks down to a chemically inert gaseous product known as radium emanation, as niton or, more recently, as radon. This gas is the first of a succession of eight stages in the breakdown of radium. In each of these stages, which is relatively short-lived, alpha, beta and gamma rays are emitted and the atomic weight becomes less. Polonium is the last stage having radioactive properties. The radiation of radium then is really the combined radiation of all its decomposition products. A specific quantity of radon adheres to its mother element and while this equilibrium quantity is

maximum the element emits a constant radiation. It is thus through radon that radium exhibits its radioactive properties. When radon is removed, as it may be with special suction pumps, the radioactive properties are to be found in the gas. The activity of radon separated from radium, however, gradually diminishes. Half is dissipated each four days. When radon is removed from radium, the activity of the latter is reduced until the normal equilibrium quantity of radon is restored. Then radium emits its usual radiation. There are thus two sources of radioactivity: radium, the constant source of indefinite duration, and radon, the diminishing source of short duration.

The early workers discovered that radium could not be handled with impunity. By 1900, Walkoff and Geisel noted that a quantity of radiferous barium in a celluloid capsule when placed on the arm for two hours produced a slight reddening and after two or three weeks the inflammation increased and the skin sloughed away. Becquerel, one time, carried a small tube of highly active radiferous barium chloride in his vest pocket where it remained for about six hours. After ten days, the skin below the pocket became inflamed; in twenty-one days, the skin sloughed and there was suppuration. The wound finally healed after forty-nine days, leaving a scar. In order to obtain further data on the physiological effect of radium, Pierre Curie exposed his arm for ten hours to a more feeble salt. In a few days, the skin was burned; a scab appeared on the twenty-fourth day, and on the forty-second the epidermis began to re-form. Mme. Curie observed that her fingers became inflamed and painful after handling radium and that the effect did not disappear for about two months.

Similar skin effects had been noted in 1896 by early investigators of x-rays, and the epilatory effect of radiation on the skin was known. The latter effect led to the use of the x-ray in hypertrichosis and later in the treatment of nevi and lupus in 1897 and 1898. When it was discovered that the radiation of radium produced similar effects and had physical properties like those of the x-ray, attempts were made as early as 1901 to use radium in therapy. At this time, Danlos borrowed radium from the Curies and applied it to the treatment of lupus and

other skin conditions. Oudin, Gadaud and Hallopeau had used it by 1902. In a short time, as radium became available in European countries, neoplasms were treated with radium and attempts were made to use the radiation in surgery and gynecology as well as in dermatology. Robert Abbe introduced radium into the United States.

Though radium was used extensively in therapy during the early years of the century, and some of the physiological effects of radium were learned, no studies were of much importance until the systematic, scientific study of Wickham and Degrais. These workers made use of surface applicators in which radium salts were mounted on a plaque and covered with a thin layer of special varnish. Wickham tried to systematize the factors of dosage used in radium therapy. He also adopted the practice of placing inert substances, such as cotton wool, between the radium and tissues in order to modify the radiation reaching the tissues. He originated the principle of crossfire for the treatment of deep-seated growths. In 1906, Wickham and Degrais established in Paris a laboratory for studying the physiological and therapeutic effects of radium. The new director of this laboratory, Henri Dominici, probably did more than anyone else to place radium therapy on a firm scientific basis. When he began his work on radium, the element was falling into disuse, because it so frequently caused necrosis. Dominici demonstrated that the damaging effects were produced by the alpha, the beta and the shorter gamma radiation. By enclosing the radium in heavy metal cases which absorbed all but the stronger gamma rays, he obtained a greater penetration efficiency for the radiation. Radium thus became safer and more effective. Abbe introduced the technic of inserting radium tubes into tumors, and Stevenson and Joly, in 1914, modified the technic by using implants of fine capillary glass tubes containing radium emanation. About this time, radium needles came into use. These consisted of thin closed platinum or steel tubes provided with a needle eye and containing usually five or ten milligrams of radium salt. In more recent years, G. Failla (1926) devised gold seeds containing radon to be permanently implanted in the tissue. After five or six days, the radon decomposed and the containers were merely inert and harmless for-

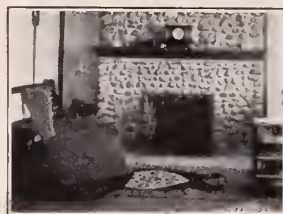


eign bodies. In practically all modern use of radium and radon, the tubes containing the substance are made of metals which filter out all but the gamma radiation. An early technic of inhaling radon and of injecting radon and radium into the blood stream was of transitory importance.

A recent development of radioactive material has been the successful isolation from radium ores of protactinium, the mother element of actinium. A. Debiere, a colleague of the Curies, discovered actinium in 1899, but, due to the difficulty of isolating it from the rare earth metals with which it was found, it did not receive much attention. Now, however, with the isolation of protactinium, in 1934, by A. V. Grosse, the actinium radioactive series acquires a new importance, since the element is only a little more rare than radium. In addition, its gamma radiation possesses greater energy and its most penetrating rays have a shorter wave length.

In the earlier days of radium therapy, the activity of the radium salt was compared with that of uranium and the strength was indicated as a multiple of the uranium standard. In 1912, Mme. Curie prepared a quantity of highly purified radium which serves as the international standard. The standardization of radium sources and filtration materials diminishes the number of variable factors to be considered in treatment by two. There remain the size and depth of the tumor, the location and type of tissue involved, the distribution of the source, its distance from the tissue and the duration of exposure. These factors do not admit of easy standardization. Though radioactive substances have become an important therapeutic agent, their use still requires a high degree of skill in the selection of cases for treatment and in the supervision of therapy.

The House of Delegates of the American Medical Association meets in special session in Chicago, February 15. In view of the movement on the part of the Federal government for some form of health insurance, the deliberations and conclusions of the House of Delegates are of special importance. Every practising physician in the United States should keep himself thoroughly informed.



## The Editor's Easy Chair

### REVIEWING AN OLD BOOK

The writer has felt at times that there are old books he would rather review than some of those recently off the press. He has selected an old favorite, the product of the author's off hours, which leads us to speculate on the nature of leisure which many of us find to be our lot. A conclusion which no one will dispute is, that real leisure is a rhythmic alternative of work. Can the unemployed be said to have leisure? We are inclined to think not. All work and no play makes Jack a dull boy, and all play and no work makes Jack stupid. So then, true leisure is only possible as a period alternated with work. Leisure is made up of the interludes of work. No work, no leisure.

\* \* \*

The book selected is "*Horæ Subsecivæ*," Leisure Hours, by Doctor John Brown. The known facts of his life apart from what may be gleaned from his essays and sketches are somewhat meager. He was born in 1810 in Lanark, Scotland, and died in Edinburgh 1882. Educated at the Edinburgh High School and at Edinburgh University, he was graduated in medicine 1833. He was for a time surgical assistant to the great Syme, who seems to have exerted a profound influence on his life, of whom Brown said, "He never wasted a drop of ink or blood." We imagine that from his scholarship, associated with an unique personality, John Brown was one of the leading physicians of Edinburgh, though like many other doctors he will be known to posterity by his avocation rather than by his professional vocation. In other words, his claim to fame rests upon his Leisure Hours, published in 1858 and 1861. The *Horæ Subsecivæ* consists of collections of essays and sketches on John Locke and Sydenham, and on men of less note, on dogs and places and other subjects. He has been described as one of the "few favored and inspired gossips of literature." In one of his essays he begins by saying, "If man is made to mourn, he also, poor fellow—without doubt therefore—is also made to



laugh." Brown was a master of both pathos and humor. Our author has little use for the medical savant who approaches the sick bed with a countenance that is more suggestive of graves, worms and epitaphs, than hope and comfort.

"My excuse is, that these papers are really what they profess to be, done at bye-hours. *Dulce est desipere*, when in its fit place and time. Moreover, let me tell my young doctor friends, that a cheerful face, and step, and neckcloth, and button-hole and an occasional hearty and kindly joke, a power of executing and setting agoing a good laugh, are stock in our trade and not to be despised. The merry heart does good like a medicine. Your pompous man, and your selfish man, don't laugh much, or care for laughter; it discomposes the fixed grandeur of the one and has little room in the heart for the other, who is literally self-contained."

He goes on to give an instance of a comely young wife apparently dying of an inflammatory condition of the throat. Her friends were standing around her bed hopeless and helpless. Her husband suggested, "Try her wi' a compliment." She had a sense of humor as well as had her husband and she laughed, which caused the abscess to burst and a happy recovery was the result. All this was, of course, nearly a century ago and in the meantime more approved methods of treating quinsy have evolved. Our author goes on to discuss humor:

"Humour, if genuine (and if not, it is not humour), is the very flavour of the spirit, its rich and fragrant *osmazome*—having in its aroma something of everything in the man, his expressed juice; wit is but the laughing flower of the intellect or the turn of speech, and is often what we call a 'gum-flower,' and looks well when dry. Humour is, in a certain sense, involuntary in its origin in one man, and in its effect upon another; it is systemic, and not local."

Brown had no part in the political and religious controversies of his time and, to show how little reason entered into such discussions, he told the story of a clergyman quizzing a raw plowboy, "Who made you?" queried the minister. "God," was the answer. "How do you know?" After scratching his head, the youth replied, "Weel sir, its the clash (common talk) o' the kintry." Brown felt that much of our opinion and belief was simply "the clash o' the kintry."

\* \* \*

Turning from the gay to the grave, he is seen at his best in that touching Scottish idyl "Rab and His Friends." Brief, only fourteen pages, the story made the author famous. The characters, a Scottish surgeon, a

peasant and his wife and a faithful dog, and an operation for cancer of the breast in the pre-anesthetic and pre-antisepsis and pre-asepsis period.

Dr. Brown's lay addresses, with few deletions and inclusions to make them conform to present day medicine, would be excellent for broadcasting by radio. His language is simple, clear and forceful. He prefers the word "spade" to "horticultural implement," five letters to twenty-two. We have the following advice to laymen:

"Therefore I shall ask you (his lay audience) to remember four things about your duty to the Doctor so as to get the most good out of him.

"First. It is your duty to trust the Doctor.

"Second. It is your duty to obey the Doctor.

"Third. It is your duty to speak the truth to the Doctor, the whole truth, and nothing but the truth; and,

"Fourth. It is your duty to reward the Doctor."

He goes on to amplify each injunction; the fourth is especially worth quoting.

"Lastly. It is your duty to reward your Doctor. There are four ways of rewarding your Doctor. The first is by giving him your money; the second is by giving him your gratitude; the third is by your doing his bidding; and the fourth is by speaking well of him, giving him a good name, recommending him to others. You will always get a good doctor willing to attend you for nothing, and this is a great blessing; but let me tell you—I don't think I need tell you—try to pay him be it ever so little. It does you good as well as him; it keeps up your self-respect; it raises you in your own eye, in your neighbour's and, what is best, in your God's eye, because it is doing what is right."

Then he goes on to show that it is a law of our life that there are no onesided duties; they are always double. It is like shaking hands; there must be two. Hence the Doctor's duties to the patient are tersely stated. It is the duty of the doctor in the first place to cure you—if he can; in the second, to be kind to the patient; in the third, to be true to him; in the fourth, to keep his secrets; in the fifth, to warn him, and, best of all, to forewarn him; in the sixth to be grateful to his patient; and lastly, it is the duty of the doctor to keep his time and temper.

\* \* \*

Brown believed that there might be something of survival value in what the cults had to offer. He would exterminate them by appropriating whatever might be of worth by winnowing it from "the false, the useless and the worse." "Why should not the 'The Faculty' have under their control and at their command rubbers and shampooers, and water men, and milk men, and grape men,

and cudgelling men, as they have cuppers and the like, instead of giving them the advantage of crying out 'persecution' and quoting the martyrs of science from Galileo downwards."

"One person," says our author, "I would earnestly warn you against, and that is the QUACK DOCTOR. If the real Doctor is a sort of God of healing, or rather our God's cobbler for the body, the Quack is the devil for the body, or rather the devil's servant against the body. And, like his father, he is a great liar and cheat. He offers you what he cannot give. Whenever you see a medicine that cures everything he sure it cures nothing; and remember, it may kill."

\* \* \*

We do not read Brown, nor any of the older clinicians, for any valuable contribution to medical science as it is today. Many of them, however, were great personalities. It is doubtful if even the best physicians of today have a truer conception of the *art* of medicine, included in that fine personal relation of doctor and patient which we like so much to emphasize. Brown as an essayist is almost in the same class as Joseph Addison or Charles Lamb. His essay on Locke and Sydenham will repay re-reading. The limits of space preclude any review of it, however brief. His keen insight into the character and personalities of others, combined with his incurable optimism, insured a ready welcome in the best society during his lifetime. His *Hora Subsecivæ* is his monument.

#### ASSAY OF COMMERCIAL EXTRACTS OF LIVER FOR PARENTERAL USE IN PERNICIOUS ANEMIA: METHOD OF SUCCESSIVE RETICULOCYTE RESPONSES IN THE SAME PATIENT

WILLIAM DAMESHEK and WILLIAM B. CASTLE, Boston, attempted a comparative assay of the different products, using the principle of the "double" reticulocyte response on the same patient. This method necessitates the use of uniform suboptimal doses of liver extract given daily in successive ten to fourteen day periods. Use of this method demonstrates that certain "concentrated" and "refined" solutions of liver extract for parenteral use have suffered a marked loss in the active principle, amounting possibly in certain cases to more than 50 per cent of the potency of the fraction G of Cohn, commonly used as the starting point in these preparations. Until the specifications of the various commercial extracts for parenteral use are clearly defined in terms of what is a just maximal dose, it will be impossible for the practicing physician to obtain an accurate impression regarding the relative potency of the various extracts. The specifications of a liver extract should not be based, as at present, on the amount of active principle with which the manufacturer began to work but on how much remains in the finished product. (*Journal A. M. A.*, Sept. 15, 1934.)

#### LIGHT SENSITIVE DERMATOSES

Nelson Paul Anderson and Samuel Ayres, Jr., Los Angeles, discuss the problem of light sensitivity in hematomporphyrin, lupus erythematosus, drugs or chemicals possessing the property of sensitizing the skin to sunlight, vitiligo, actinic cheilitis, actinic dermatitis, hydrosa estivale and pellagra. He presents evidence that shows that disturbed sulphur metabolism plays a part in the production of light sensitivity, and further that the exact status of the porphyrin in light sensitivity is as yet undetermined. The high incidence of lupus erythematosus following severe sunburn is recognized and certain cases will respond to dietary measures when all other known remedies have failed. Certain drugs, foods such as buckwheat, focal infections or physical allergy may at times be light sensitizing agents. Whether disturbed sulphur metabolism bears any relationship to vitiligo is yet to be discovered. What part faulty liver metabolism plays in the causation of actinic dermatoses and of pellagra is not known. It appears that liver therapy is of definite value in both conditions. (*Journal A. M. A.*, Oct. 27, 1934.)

#### B. SUBTILIS

A certain bacillus, who dines upon hay,  
Has quite a remarkable humorous way—

With mirth he will frequently fill us;  
It's not of the kind that loud laughter provokes,  
The boisterous jest, or the practical hoax,  
It's not always easy to follow his jokes—  
He is such a subtle bacillus.

The first prize for subtlety—so we are told—  
Was given at first to that tempter of old,

The talcs of whose cunning still thrill us;  
But the serpent, most subtle of beasts of the field,  
Had he known what the microscope since has revealed,  
Would have hastened at once to this rival to yield—  
He is such a subtle bacillus.

He's not pathogenic, pathologists say,  
His subtlety doesn't affect him that way,

He's no wish to harm or to kill us;  
He did once do harm of a very mild sort—  
A conjunctivitis the textbooks report—  
He must have been pulling their legs just for sport,  
He is such a subtle bacillus.

He doesn't do much in the blood-curdling line,  
He lets the bacillus cadaveris shine

In deeds which unman us and chill us:  
Such methods a cheap popularity buy;  
It's not on sensations like that he'll rely;  
No, jests such as follow are more what he'll try,  
He is such a subtle bacillus.

The candidates in an exam. he'll confuse  
By hiding himself in the cultures they use—

They say: "This will certainly pill us  
We've never seen anything like it before;  
We'll call it an anthrax without any spore!"  
So they do—and are pilled for their pains by the  
score.

He is such a subtle bacillus.

And then he will waggishly go and invade  
A virulent culture which someone has made

Of germs that attack us and kill us  
And when one makes films, and has stained them  
with Gram,  
He'll appear on the slide and say: "Guess who I  
am!"

And the bacteriologist sometimes\* says "Damn!  
It's that devilish subtle bacillus!"

—Round the Fountain.

\*Oh, surely never!—Ed.



# Medical Economics

The general meeting of the Wayne County Medical Society of December the seventeenth was given over to a discussion of Medical Economic problems. The program consisted of a number of short papers on various phases of the general subject. Most of them were of more than local appeal, that is, the subjects were of interest to the profession of the entire state. Some of the discussions were extemporaneous so that this report of the meeting is confined to the prepared papers and is not intended to be complete.

## A PLEA FOR MEDICAL LEADERSHIP

H. A. LUCE, M.D.  
Detroit

The majority of the population of the world today is involved in some sort of plan designed for the distribution of health or curative service. The North American Continent remains as yet the largest population area that continues to provide health measures according to traditional methods. That this is inadequate is the contention of many, and powerful forces are at work all over the country to mold public opinion to this conclusion. Public opinion can be guided but not checked. All over our commonwealth, epidemic fires are portending a conflagration. The thought is in the minds of industrialist and labor organizations. The industrialist finds that illness and incapacity interfere with his production and profit. Labor organizations are being taught by socialistic minded groups that socialized medical service will contribute to their security and well-being. Writers of newspaper and magazine articles are treating the subject with increasing frequency. The majority of the articles are not complimentary to the medical profession. Locally we have our department stores, office buildings, newspapers, creameries and industrial plants either with inadequate plans already in operation or in the process of development. The Kelvinator Company's plan is still smouldering. On the first of January, 1935, less than two weeks away, the Olds Manufacturing Company employes in Lansing are starting a program of group insurance with full time salaried doctors in attendance. All over the country the idea is being considered. Right or wrong, a demand is being made for medical service on a different basis from the traditional method. An attitude of opposition on the part of the medical profession towards suggested improvements in medical service from the laity is not contributing to the prestige of organized medicine. If the public is to be convinced that the medical profession is prepared to apply a program of medical service, then medical leadership must be more emphatic than in the past. Today the medical profession is "on the spot." Organized medicine must recognize this situation and proceed at once—not six months from now, but at once—to assume leadership.

At the recent conference on Economic Security in Washington, the stage was all set for an endorsement of a nation-wide health insurance plan. Why there was a delay, nobody knows. Perhaps it was because our President had the unfortunate but first hand knowledge of the importance of the quality of medical service. Quotation from the President's speech at the Economic Conference in Washington, November 14, 1934: "There is also the problem of economic loss due to sickness—a very serious matter for many families with and without incomes, and therefore an unfair burden upon the medical profession. Whether we come to this form of insurance soon or later on, I am confident that we can devise a system which will enhance and not hinder the remarkable progress which has been made and is

being made in the practice of the profession of medicine and surgery in the United States."

Today in the United States, with a population of approximately 120 million, we have 17 million unemployed without adequate means to provide for medical care. Even in the "good times" of 1929, three families out of five were below the "health and decency" level. For the medical profession to assume an "ostrich attitude" is cowardly and asinine. If the medical profession does not assume leadership, some other factor will dominate to the loss of the public and profession jointly.

Attempts to solve our problems by adopting the plans of other nations are basically wrong. Most of the attempts in other countries have arisen out of actual poverty needs; ours is in a measure concerned with the distribution of wealth. There is a wider diversity of conditions and types of employment in our country than in foreign countries. Our standards of living and principles of government are fundamentally different. However, all these things do not preclude consideration of the distribution of medical service. The medical profession must recognize its obligation and act at once.

The problem, for a brief period of time, is still available for organized medicine to solve. The delay at Washington is only temporary.

In the solution of the problem, two factors must be kept in mind: First—quality of service, curative and preventive; second—security for those rendering the service.

The medical profession is accomplishing an excellent work in the solution of the problem of keeping itself qualified to render a high degree of medical service. The Postgraduate Conferences all over the state of Michigan are doing a wonderful piece of work. You are all familiar with the recent Highland Park Annual Clinic at which nearly 500 registered and attended from all parts of the state.

The state of Michigan, as well as many local county societies, is well aware of the importance of the subject. It is to be hoped that the American Medical Association may see fit to call a special meeting of the House of Delegates for necessary action relative to the subject as it affects the whole nation.

The public is not sufficiently educated relative to the quality of service. The laity have an erroneous idea that medical service is comparable to merchandise. There is not one quality of service for the employe and one for the employer. The so-called "low in the social scale" is entitled to the same quality of service that is rendered the "well-to-do." The financially embarrassed person's child may secure an equal degree of warmth and protection from the cold from a \$5.00 shoddy overcoat that his well-to-do neighbor's child enjoys from a fur lined jacket; but, when it comes to illness, there is no such distinction in the quality. Herein lies much of the fallacy of socialized schemes. Medical services cannot be distributed on "chain store" principles. Production lines are conducive to factory outputs, but human beings are not metals nor inert ma-



terials. Localized trials and experimentations are desirable. It is unwise to establish social experiments in such a way that they are difficult to discontinue. The Volstead law experience should be a warning against too hasty actions.

Most health socialization schemes have neglected to consider the economic security of the contributor of the service. The quality of the service depends upon the qualifications of the contributor. The contributor is handicapped without a sense of economic security. Unless this is provided, the coming generation of medical men will be drawn from the less qualified students with consequent deterioration of service.

Local medical societies must assume leadership in the local service problems of their own communities. Improvement in supplying the community with medical care will be made by collaboration of all agencies involved—the health department, the nurse, the social worker, probate courts, economist, business administrators and others.

Good quality of services must be available to all and the contributors to the service must be compensated to a point of economic security.

### THE AFFLICTED PERSONS LAWS OF MICHIGAN

L. J. GARIEPY, M.D.†  
Detroit

The Afflicted Child Act was created by the Legislature in 1913 as Act 274. The Afflicted Adult Act was placed on the statute books in 1915 as Act No. 267. Both of these laws provided that indigent afflicted persons who needed medical care could receive free service, at the cost to the state, in the University of Michigan Hospital. So all the cases from Wayne County, from all parts of the lower peninsula, and from the upper peninsula were transported, at the taxpayers' expense, to Ann Arbor. This continued for practically twenty years.

In order to get statistics on the number of cases and on the costs, the 1933 Legislature, as an experiment for two years, placed the administration of the Afflicted Child Act under control of the Crippled Child Commission. Also, cases were permitted to be hospitalized in local hospitals, as well as in the U. of M. Hospital. An eleventh hour change in the Act—the "joker" in the law—provided that while the state would pay the local hospital bill, the individual county must pay the doctor bill, if any. This resulted in the joint administration of the Act by the Crippled Children Commission and the local probate judges and auditors, when the case was hospitalized locally.

This experiment applied only to the Afflicted Child Act. The Afflicted Adult Act was not changed in its administration. The probate judges and the auditors of the county wherein the patient resides are still in complete charge of its administration, and must pay the full costs, both of hospital and of the medical man.

Specifically by law and the Attorney General's opinion, reasonable compensation shall be paid to physicians and surgeons. In 1933, the Crippled Children's Commission worked up a schedule of fees for the hospitals, and another schedule for physicians; the latter was arrived at after conferences with members of the Michigan State Medical Society. Today, some county officials are accepting this fair fee schedule, are paying both hospitals and doctors, and the set-up is working satisfactorily; other county officials have obtained a fifty per cent discount from physicians; still others have scotched physicians

down to a seventy-five per cent discount off the special fee schedule. In Wayne County, the officials have not paid one cent to the physicians and surgeons of this county, although the law specifically calls for reasonable compensation.

The Chiefs of Staffs of all the Detroit hospitals held a meeting in January, 1934, and attempted to arrange terms with the County Auditors, but struck a filibuster. During the first year of the law's operation, up to October 1, 1934, approximately 4,200 cases in Wayne County alone were hospitalized under these two Acts, with over 3,115 receiving care in Detroit and Wayne County hospitals, and approximately 1,060 in the U. of M. Hospital. It is estimated that Wayne County hospitals received in the neighborhood of \$251,000 for the care of these cases, and we are glad that local hospitals were so aided. It is unfortunate, however, that the physicians about whom the whole medical and surgical service pivoted, received not a cent, despite the law. The burden of caring for approximately 300 county cases per month—with the load becoming greater every month and year—is too heavy for the medical profession to carry, as it is already weighed down with the care of hundreds of city cases. The breaking point has been reached. The Wayne County Medical Society is receiving complaints from all over the city. It wishes to do something constructive toward the solution of this problem before some damage is done by individuals or unorganized minorities.

### DISCUSSION OF PRACTICE OF MEDICINE BY CORPORATIONS

FRANK W. STAFFORD, M.D.  
Detroit

The practice of medicine by a corporation is contrary to the law of Michigan. The Michigan statutes specifically state in Sections 6739, 3743, and 6756 of the Public Acts of 1929, as well as in the General Corporation Act, that medicine must be practiced by one who is the lawful possessor of a certificate of registration or license issued under the Medical Practice Act (Act 237 of 1899). The State Board of Registration in Medicine cannot give a license to a corporation to practice medicine. However, the practice of Medicine is being illegally carried on by corporations and although this committee so far has not had time to investigate complaints against dispensaries, insurance companies, and industrial plants, it has made some progress on one phase of this big problem, that is the practice of medicine by hospitals.

In May, 1934, the Wayne County Medical Society sent out a 15-point questionnaire in which the following question was asked: "Have you suffered from flat rate fees (such as for obstetrics) set up by hospitals which are practicing medicine illegally?" The answers were almost unanimous in their agreement that certain Wayne County hospitals were practicing medicine. One hundred and twenty-three (123) specific cases were cited. Sixty-two physicians sent written complaints to the Wayne County Medical Society giving the data and facts of each particular infringement of the law as they had experienced it.

In August, 1934, the present Committee on the Practice of Medicine by Corporation was appointed, and given the task of investigating these complaints. It was a most embarrassing task. It means hard work, over a long period of time. But the Committee was willing to labor, and held weekly meetings. Representatives of all local hospitals against whom complaints had been lodged were or are being called in. In all our contacts, certain facts have been discovered relative to the common use of flat-rate fees by certain institutions. One hospital executive believed that many of the abuses are a matter of usage because—to use the exact statement—

†Dr. Gariepy is chairman of the Policy Committee, Wayne County Medical Society.

"they have never been challenged before." (That's a bad commentary on the indifferent attitude of the physicians connected with that institution.) Some of the institutions individually agreed to stop objectionable practices if all institutions would stop. One hospital superintendent stated that personally she would be glad to give up the out-patient department since it was only a source of grief.

All in all, the committee believes that there is much unfair and *illegal* competition with physicians in the practice of medicine. *Now*, there are two courses to follow, working for a solution of this:

1. The Medical Society and the hospitals can work out a mutually acceptable agreement and plan for the handling of these controversial cases, in order to do away with the illegal practice of medicine, and with *charity* abuse;

Or

2. The medical profession can seek to obtain a judicial precedent by resorting to court action.

We believe the former plan to make an agreeable set-up between hospitals and private practitioners which will do away with illegal corporation practice and charity abuse can and will be done—soon. In this matter of working out this problem amicably, other cities have pioneered, and codes have been established which are fairly satisfactory to all concerned.

Physicians and hospitals must work together and support each other, or both will lose to purely commercial interests. Knowledge of each other's problems, plans and purposes will help both.

## METROPOLITAN DETROIT HEALTH COUNCIL

WILLIAM J. BURNS†  
Detroit

Someone asked the other day, what is the purpose of a council of social agencies? Briefly, but broadly, the purpose as given by one such council is, "to promote the welfare of the community." We are informed, by some who know, that councils of social agencies originated and have been carried on for the specific purpose of widespread *planning* in communities to effect and improve social structure. In the past, the entire work and scope of the activities of these councils has had to do with such matters as recreation, leisure time, character building, family welfare, relief problems, and social rehabilitation. After there had been created over a period of time a multiplicity of various agencies such as the Red Cross, Salvation Army, Associated Charities, Boy and Girl Scouts, Juvenile Protective and Delinquency Agencies, councils of social agencies were created to coordinate the trends and efforts of all these groups into a well organized interlocking set-up for social benefit, with no duplication of work. That was and is a fine piece of work.

Due very largely to the fact that changing social conditions have thrown a tremendous burden on the allied medical professions to provide proper and adequate medical care and health service to all the people, some councils of social agencies have of late stepped over the bounds of their own training and qualifications into a field which represented a gap in the community picture, and have started to delve into things of a medical nature.

Matters of a medical nature involve medical service. Medical service involves the skill and experience possessed only by the medical profession. The interests of the community will be best served if councils of social agencies will concentrate their activities on those efforts of a *social* nature, and, where health problems enter into the picture, depend upon

coöperative and coördinating relationship with health councils guided by people trained in providing medical care. The physician working alone could hope to do only an imperfect job in the field of recreation, leisure time, Salvation Army work, or Volunteers of America work. Conversely, the social worker, without proper coöperation and advice, cannot hope to do anything but an imperfect job in the field of medical care and health prevention.

Because of the *social aspect* of health service, the council of social agencies in any city fits into the health picture as an *aid*. The county medical society must work with it and use its facilities for the good of the people, for the good of the profession, and the individual physician. On the other hand, the allied medical profession cannot stand idly by and allow any council of social agencies to take over and control entirely and exclusively an organization designed to study and lay out the program covering community health and care of the sick.

In Detroit, what would be such an organization? Answer—a Metropolitan Detroit Health Council representative of all interested groups.

This Health Entente is a community need. It should be created at once, under the pioneering sponsorship of the allied medical professions. All *groups* interested in health work and all *individuals* interested in health problems would be joined into one coöperative, friendly council, made up of four sections. The civic leaders section, the public health section, and the hospital and dispensary section could integrate their studies and plans with the professional section to insure best health results. All four sections would work in harmony among *themselves*; then as a *unit*, the Metropolitan Detroit Health Council would work in harmony with existing agencies and institutions, resulting in community good. The professions, the people served, the agencies—all would gain. The American Medical Association states that "A Health Council has a general tendency to favor good community relations, and more communities *with health councils* have good community coöperation than those communities without health councils."

The doctor's work is social as well as medical and economic—necessarily so. So he cannot stand alone, without loss to himself and his profession. The Metropolitan Detroit Health Council should be a member of the Council of Social Agencies of Metropolitan Detroit, to do the greatest good for the profession and for the people. With all groups working together, the recommendations of the two surveys regarding Detroit dispensaries can be carried out, without experiencing the mistakes suffered by other communities.

The creation of a "Metropolitan Detroit Health Council" has been approved by the officers and by the Board of Trustees of the W. C. M. S. President Cassidy recently appointed a committee of three which has contacted the officers of the Council of Social Agencies of Metropolitan Detroit and offered aid in organizing a health council for Detroit. The organization of this important *study* group must be effected at once. Physicians must get mighty interested in the work—if they want to have *something* to say about their own business.

Motion of Dr. C. G. Jennings: I move that the Wayne County Medical Society endorse the immediate organization of a Metropolitan Detroit Health Council for the purpose of securing good health service for all the people at a minimum of expense, and that the officers of the Wayne County Medical Society be empowered to effect this organization in coöperation with community agencies dealing with medical service and health protection.

Seconded by Dr. J. M. Robb. Motion carried unanimously.

†Mr. Burns is Executive Secretary of Wayne County Medical Society.



## DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

### MID-WINTER MEETING OF THE COUNCIL

This issue contains the minutes of the Mid-Winter Meeting of the Council, the various reports rendered and a record of the actions taken thereon. All members are urged to read them.

By action of the Council it was voted that the Annual Meeting of the Society be held September 23, 24, 25 at Sault Ste. Marie.

### THE CANCER PROBLEM IN MICHIGAN\*

While cancer prevention and control is becoming of increasing importance in the medical field it is by no means a new problem. Cancer is one of the oldest known diseases, the earliest writings of India and Persia containing references to it. It was well known to the ancient Greeks and, with the exception of radiology, was treated by them much as it is today, *i.e.*, by surgical excision and burning with the hot iron, of which diathermy and electro-cauterization are the modern successors.

Because of the antiquity of the disease and its ravages throughout the ages cancer becomes a fascinating subject for study. For centuries little or no progress was made in its control because its manifestations were shrouded in mystery, as were most fundamental biological functions at that time. More progress has been made in our understanding of the disease in the last thirty years than in the previous three thousand. It is only as the cold eye of scientific research has been focused on this problem that much of the mystery has been stripped from it. Ignorance begets mystery, and mystery fear; both mystery and fear vanish as knowledge replaces ignorance. Because of this fact the most promising attack on the cancer problem today is through education

of all classes concerned with it. As knowledge of the problem increases, the hopefulness of the situation becomes more apparent. It was not recognized until recently that the educational attack on the problem should concern both the professions and the public.

The only national organization in the field of cancer education is the American Society for the Control of Cancer. It was formed largely as a result of the interest of leading gynecologists who were impressed with the appalling mortality from cancer of the reproductive organs in their patients, and began to function in January, 1914. The Society was formed primarily to carry on public education as to early signs and symptoms and the necessity for attention to these signs wherever found. Education of the professions was left, and still is left, largely to their own members, realizing that the professional problems are peculiar to each group and the methods to be employed will vary with the different groups concerned.

After a period of educational effort the Society found, however, that in many communities the public was being urged to seek a professional service not then available, and the public reaction to this situation was not a healthy one. The inability to obtain the service desired often was due to the absence of adequate diagnostic and treatment facilities. The introduction of radiation therapy came with such suddenness and the financial demands to provide it were so heavy, that few institutions were or could be promptly equipped for this service. Even today, the number of such institutions equipped adequately for diagnostic and therapeutic procedures in keeping with modern knowledge of the disease and methods for its treatment is far too few. One of the healthy signs in the attack on this problem is the increasing interest of hospitals and their staffs to provide for their communities the latest approved methods for diagnosis and treatment.

Due to the educational efforts of the American Society for the Control of Cancer, which always have been of a conserva-

\*Now under way are two Surveys of Cancer in Michigan, one by the American Society for the Control of Cancer, the other by the Michigan Department of Health. By agreement between Doctor Rector and Doctor Siemons these surveys will be coordinated and will not conflict or overlap. By request, this review is presented by Dr. Frank L. Rector of Evanston, Illinois, Field Representative of the American Society for the Control of Cancer.



tive and constructive character, the medical profession is coming to realize the intelligent interest of the public in this problem. Reporting of nearly 25,000 five year cancer cures by the American College of Surgeons has done much to encourage a more optimistic attitude toward this disease in the public mind. Ignorance of the disease by the public and professions alike has done much to perpetuate the false ideas and conceptions so widely held today. Belief of the incurability of cancer is probably the most widely held of these false notions; also the feeling of social stigma attached to the cancer patient, and the fear that it is a contagious disease, has prevented patients from making their condition known. Because of this today probably more than half the cancer patients first seek medical aid when there is no possibility of a cure.

While there is no known common etiology for all types of malignant growth, enough is known about the disease to permit of a marked reduction, from 30 to 50 per cent, in the deaths if all concerned acted wisely on this information. Cancer of the breast, cervix, skin, mouth, and lip give evidence of their presence sufficiently early in the majority of cases to permit of a cure if only the early signs were always understood by patient and physician and competent treatment given. A periodic and thorough physical examination by a competent physician with an "eye for cancer" would reveal many malignant growths in early stages when there is the most hope for a cure, and physicians should perfect themselves in this form of practice in order to meet the demands of their patients for such service.

The public is becoming keenly aware of many of the implications of early signs of malignant growths. In increasing numbers they are asking where capable diagnosticians and competent therapists can be found. Too often they are not thinking of the family physician as the logical person to set them right on these matters. No one is better qualified than he to advise his patients, and he should remember that the fate of the cancer patient rests very largely with the first physician seeing the case. If the physician makes a false step at this time the patient may pay with his life, while his welfare will be safeguarded if the first step is in the direction of prompt and adequate diagnosis and competent therapy. There is

no place in medical service to the cancer patient for a "watchful waiting" attitude by the physician. Every cancer case is an emergency, not for hurried surgery, but for therapy predicated on diagnostic findings.

Already the public has made its influence felt in the cancer field. Eleven states now make cancer a reportable disease to the State Department of Health, and two states, Massachusetts and New York, have Divisions of Cancer Control in their health departments with complete clinical facilities and extensive research programs. Influential lay groups, as women's clubs, are taking an organized interest in the problem and are beginning to ask advice of the medical profession as to appropriate legislation to further improve facilities for cancer prevention and control.

These and other lay undertakings indicate the necessity for increased consideration of this problem by the medical and allied professions. The medical profession should become informed of the extent of the problem, the distribution, also the lack, of facilities for adequate diagnosis and competent therapy, and related matters in each community. In general this information is lacking in all but a few states. It is only during the past four years that intensive statewide surveys of the above problems have been made. It has been the writer's privilege to have made such surveys in six middle western states, viz: Iowa, Kansas, Minnesota, Missouri, Nebraska and Wisconsin. These surveys have been undertaken only on invitation of the state medical organization in the states concerned and have been carried on with their full coöperation. The survey now under way in Michigan, editorial reference to which was made in the January, 1935, issue of this JOURNAL, is following the same plan, and on its completion a confidential report with recommendations will be made to the Michigan State Medical Society for an improved service to cancer patients in the state as a whole.

It is the policy of the American Society for the Control of Cancer to work with and through the medical and allied professions and their organizations in the development of educational programs in the cancer field. It recognizes fully that cancer is primarily the responsibility of the physicians of this country and believes that its best contributions to the control of the disease can be

made in coöperation with the medical profession, lending assistance wherever possible to strengthen the professional approach to the problem. It stands ready as far as its resources permit to assist in the development of a constructive program of cancer control in any community in keeping with that community's needs.

Surveys already made have shown the futility of trying to develop one standard program of cancer control to fit all regions. It cannot be done successfully because requirements on the one hand, and facilities for proper attention to cancer patients on the other hand, vary widely in different communities. This fact emphasizes the importance of such studies as the present Michigan survey to determine the needs and resources of different communities within the state. Once determined, a practical program can be developed to utilize all community agencies that can contribute to a solution of the problem.

Progress in the control of cancer rests primarily with the medical profession. If it takes its rightful place in the education of the public, advises patients of the implications of early signs and symptoms, renders competent service in periodic physical examinations, and utilizes the best methods in diagnosis and treatment of cancer and suspected cancer, a marked improvement may be looked for in this situation. If it continues to treat the matter indifferently it will postpone by so much the benefits to which the community is entitled and may find itself faced with a control program not of its own making. The number and extent of surveys already made by the Michigan State Medical Society in the medical and sociologic fields is an indication that it will promptly assume control of the cancer problem in this state once the factors involved are placed before it in a practical program based upon facts obtained in the present survey.

At the Mid-Winter Meeting of the Council the dues were established at \$8.50, the same as last year. Dues are now payable and we urge each member to send his remittance promptly to his County Secretary.

## COUNTY SOCIETIES

### HOUGHTON COUNTY

At the regular monthly meeting of the Houghton County Medical Society held January the eighth the following officers were elected for the year: President, Dr. G. C. Stewart, Hancock, Michigan; Vice-President, Dr. T. P. Wickliffe, Calumet, Michigan; Secretary-Treasurer, Dr. W. T. S. Gregg, Calumet, Michigan; Board of Censors, Dr. Simon Levin, Houghton, Michigan; Delegate to State Convention, Dr. P. D. Bourland, Calumet; Alternate Delegates, Dr. A. D. Aldrich, Houghton, Michigan. Our next meeting we expect to have Dr. C. C. Slemons, Head of Board of Health of the State Department, who will address us on "Activity of State Board of Health."

### THE CANCER PROBLEM TODAY

The cancer problem, as William Carpenter MacCarty, Rochester, Minn., sees it, has five distinct parts, which he enumerates in their probable order of practical importance: 1. The recognition or diagnosis of this disease or complex of diseases by laymen, general physicians, general pathologists, surgical pathologists, surgeons and teachers of medicine. Each has its own limitations. 2. The statistical frequency of the disease and its relation to human welfare and possibly to that of other forms of life. 3. The application of empirical methods of treatment, there being, as yet, no known infallible specific method. 4. The education of active members of the medical profession, medical students and all those who are or might be affected by this disease. 5. Endowment and execution of pure scientific experimental research which has for its function the study of the biologic nature of the disease. Despite the things researchers have not done, their experiments should be continued, increased and even more abundantly endowed; they will undoubtedly discover the true biologic nature of this disease, which is now one of the greatest destroyers of mankind. Cancer is a biologic disease and its living phases, including its initial phase, must be brought to medical students and practicing physicians. Cancer is, in the author's opinion, a simple problem, although the various specific causes may never be known and no specific cure ever found. It is a problem of health in general, external and internal cleanliness and heredity. It is, so far as the profession is concerned, a problem of prevention, which means early recognition and treatment of things which frequently end in cancer. It is a disease that is the result of disease. Now that philanthropists have endowed medical schools, hospitals and research institutions, it is time for some one to endow a system of teaching for general practitioners. This most important member of the profession is the one who sees but does not recognize small cancers. He must have the knowledge brought to him directly by clinics held in his immediate vicinity. Some well trained individual or some group must be endowed to travel and teach without expectation of financial compensation from practice. Should such an endowment arise, the author suggests that it be a memorial to the late Dr. William Henry Welch, who, in his opinion, has done more for human welfare and happiness than any one else in recent civilization. He suggests further that it be applied in the ethical spirit of the American Medical Association, which represents the whole medical profession in its relation to all the people. (*Journal A. M. A.*, Sept. 29, 1934.)



# Minutes of the Mid-Winter Meeting of the Council of the Michigan State Medical Society

Pursuant to the official call, the Council of the Michigan State Medical Society convened in the Statler Hotel in Detroit on January 17, 1935, at 10:30 a. m., with the Chairman, Julius H. Powers, presiding.

The following Councilors were present—Carstens, Corbus, McIntyre, Boys, Cook, Heavenrich, Powers, MacMullen, Urmston, Van Leuven, Cummings, Baker, Brunk, Manthei, Perry and Speaker Luce—16.

Absent—Treyner and Hafford.

There were also present, President Smith, President-elect Penberthy, Treasurer Hyland, Editor Dempster and Secretary of the Medico-Legal Committee Stapleton.

The minutes of the last meeting of the Council and the minutes of the meetings of the Executive Committee, as published in the JOURNAL, were adopted and made a part of the official records of the Council.

The Secretary submitted the following as his annual report. The sections were referred to the Committee on Finances, Committee on County Societies and the Committee on Publication as indicated.

## SECRETARY'S ANNUAL REPORT 1934

To the Council.

Gentlemen:

There is herewith transmitted your Secretary's report for the fiscal year 1934. Appended thereto is the Auditor's report, together with a full itemization of all receipts and expenditures.

### COMMENTS

The income from membership dues, current and past, was \$20,018.85. The membership as of December 24 was 3,393.

An appreciable number of new members, chiefly from Wayne County, came into the Society in the last quarter of the year. Under the provisions of the new By-Law, such newly elected members may enter the Society on payment of dues for the unexpired quarter. This accounts for the apparent discrepancy in the amount received as compared with the total membership.

Nineteen thirty-three showed a decrease of the income received from dues in 1932 of a little over \$5,000. Much of this has been made up in 1934. There is still outstanding a considerable number of unpaid notes given by members for dues in 1932 and 1933. It is hoped that the members will show an appreciation of this obligation, and, as conditions continue to improve, will make the proper effort to make payment.

One dollar and a half from the dues of each member is allocated and set up on our books as a

subscription to the JOURNAL. On this basis the JOURNAL shows a profit of \$1,439.67. From the profit thus shown should be deducted that percentage of stenographic expense and the Secretary's services which are devoted to the management of the JOURNAL. This should properly be charged against JOURNAL expense. The advertising sales were more than last year and the prospects for 1935 are most encouraging.

To the Council:

The JOURNAL is published as a non-profit activity of this Society and aside from this and, as a matter of society policy, all earnings should be put back in the JOURNAL. It should be and is the ambition of your secretary to run the business part of the JOURNAL so successfully that additional pages may be added. A bigger and better JOURNAL will result, for your Editor stands ready to fill each page with splendid scientific articles, interesting news, and a discussion of current problems, with every page worth reading.

Under the existing conditions, your Society has had an extremely satisfactory year. We have paid off the \$2,500.00 note which the difficulties of 1933 necessitated. For our post-graduate and educational program we have expended approximately two thousand dollars. An accumulation of obligations from 1933, together with heavy current expenses, caused us to exceed our budget for the Medical Legal Defense Committee by some fifteen hundred dollars. The accumulated reserve is ample to take care of this. We end the year in the black, our securities have advanced somewhat in value and altogether, measured by last year, it is most satisfactory and far better than we anticipated.

### TENTATIVE BUDGET FOR 1935

The following Tentative Budget for 1935 is submitted for your guidance.

#### INCOME

3,300 Members @ \$8.50.....	\$28,050.00
Interest .....	1,200.00
	<hr/> \$29,250.00

#### APPROPRIATIONS

Defense Fund (3,300) @ \$1.50....	\$ 4,950.00
Journal Subscriptions (3,300) @ \$1.50 .....	4,950.00
Rent .....	1,000.00
Annual Meeting.....	750.00
Post Graduate Activities.....	800.00
Committee Expense:	
Cancer .....	\$200.00
Preventive Medicine.....	400.00
Special Committees.....	250.00
Economics Committee..	500.00
Joint Committee.....	500.00
	<hr/> 1,850.00
Legislative Committee.....	2,000.00
Council Expense.....	1,800.00
Postage .....	400.00
Ptg., Stationery and Supplies....	400.00
Delegates to A. M. A.....	600.00
Stenographic .....	2,000.00
Society Expense.....	2,500.00
Miscellaneous General Expense..	1,250.00
Secretary's Salary.....	4,000.00
	<hr/> \$29,250.00



## JOURNAL BUDGET

*Income*

Advertising (Net).....	\$ 6,000.00
Subscriptions .....	4,950.00
Reprint Profit.....	150.00
Individual Subscriptions and Sales .....	150.00
	<hr/> \$11,250.00

*Expenses*

Printing .....	\$ 7,800.00
Editor's Expenses.....	500.00
Editor's Salary .....	2,250.00
Postage .....	200.00
Reserve .....	500.00
	<hr/> \$11,250.00

## MEMBERSHIP TABULATION

County	1933	1934	Loss	Gain	Un- paid	Deaths
Alpena .....	16	15	1	---	1	---
Antrim-Charlevoix- Emmett-Cheboygan.....	34	27	7	---	4	---
Barry .....	14	15	---	1	---	---
Bay-Arenac-Iosco .....	61	64	---	3	1	6
Berrien .....	42	45	---	3	3	2
Branch .....	11	16	---	5	---	---
Calhoun .....	109	109	---	---	3	2
Cass .....	12	11	1	---	2	---
Chippewa-Mackinac .....	17	16	1	---	1	---
Clinton .....	11	11	---	---	---	1
Delta .....	20	23	---	3	2	1
Dickinson-Iron .....	18	19	---	1	1	---
Eaton .....	26	26	---	---	---	---
Genesee .....	137	142	---	5	9	2
Gogebic .....	24	24	---	---	---	1
Grand Traverse- Leelanau .....	27	25	2	---	4	---
Gratiot-Isabella- Clare .....	32	33	---	1	1	2
Hillsdale .....	20	21	---	1	---	---
Houghton-Baraga- Keweenaw .....	38	38	---	---	---	2
Huron .....	9	13	---	4	---	---
Ingham .....	98	113	---	15	---	1
Ionia-Montcalm .....	33	36	---	3	---	---
Jackson .....	65	73	---	8	7	2
Kalamazoo .....	132	128	4	---	1	7
Kent .....	209	216	---	7	13	4
Lapeer .....	17	14	3	---	1	---
Lenawee .....	30	34	---	4	1	---
Livingston .....	19	16	3	---	1	1
Luce .....	9	9	---	---	---	---
Macomb .....	34	36	---	2	4	1
Manistee .....	15	15	---	---	---	---
Marquette-Alger .....	35	33	2	---	2	---
Mason .....	9	10	---	1	---	---
Mecosta .....	19	19	---	---	---	---
Menominee .....	11	10	1	---	---	---
Midland .....	9	10	---	1	1	---
Monroe .....	32	32	---	---	---	2
Muskegon .....	67	66	1	---	---	1
Newaygo .....	11	10	1	---	---	---
Oceana .....	11	11	---	---	---	---
Oakland .....	101	98	3	---	4	2
Otsego-Montmorency- Crawford-Oscoda.....	15	13	2	---	1	---
Roscommon-Ogemaw .....	6	5	1	---	1	---
Ottawa .....	32	32	---	---	1	---
Saginaw .....	78	93	---	15	---	4
Sanilac .....	10	13	---	3	---	1
Schoolcraft .....	5	5	---	---	---	---
Shiawassee .....	25	29	---	4	---	---
St. Clair .....	38	44	---	6	---	1
St. Joseph .....	18	17	1	---	4	1
Tuscola .....	29	30	---	1	---	1
Washtenaw .....	135	139	---	4	6	1
Wexford-Kalkaska- Missaukee-Osceola.....	20	20	---	---	---	1
Wayne .....	1105	1271	---	166	95	26
	<hr/> 3160	<hr/> 3393	<hr/> 34	<hr/> 267	<hr/> 175	<hr/> 76
		<hr/> 3160		<hr/> 34		
GAIN FOR 1934.....		233		233		

## MEMBERSHIP

To so materially increase our membership is most gratifying. It indicates real effort and diligence on the part of county society officials, but more than this, it indicates an appreciation of what the society is trying to do for its members, and an appreciation by the profession of the value to them of organized medicine. If the pattern of medical practice

is to be changed, as seems not unlikely, it will be the strong, efficiently run medical society, state and county, which will be the strongest bulwark against impractical, socialistic programs alike detrimental to doctor and patient. The county society is not only a forum for healthful discussion, but makes for the solidarity of the profession, which is so extremely necessary at this time.

In the December issue of the JOURNAL we have listed the deaths during the past year up to the time of going to press. We make the following additions, which makes a total of seventy-six for the year.

Wayne County—Frank Elmer Cameron, Henry Creasey, E. F. Partello, Charles D. Toole and Peter R. Powell.

Huron-Sanilac—W. T. Campbell.

## ANNUAL MEETING

The Council has long felt that the designation of the place for the Annual Meeting should be in its hands. At the last meeting of the House of Delegates the responsibility was placed upon this body. This obligation necessitates great care in the choosing of a proper place.

The membership demands not only that the program shall be scientifically worthwhile but it desires comfortable hotel accommodations, convenient to the Section Meetings. When we can furnish adequate and convenient space for exhibitors, the expense of the Annual Meeting is largely covered by the financial returns. From a financial standpoint then it is important that adequate arrangements be made for our exhibitors. A complaint which seems to be common to many state societies is that the Scientific Exhibits are crowded into an inadequate space. More and more the Scientific Exhibits occupy a definite and important place in our Annual Meeting. These exhibits should be fostered and promoted in every way and a convenient and adequate space must be allotted to them.

## POST GRADUATE OPPORTUNITIES

It is now more than a decade since the Society assumed with great earnestness, the obligation to offer to its members opportunities for post graduate instruction.

Beginning on a small scale the first program provided for the sending out of special speakers to County Societies on their request. The work progressed through various stages and a high spot was reached when, using a field secretary, we put on one and two day programs in each of our councilor districts. Since the establishment of the Department of Post Graduate Medicine of the University, with the fortunate appointment of one of our own councilors as director, the development of this activity has greatly broadened in scope and proceeded in cordial cooperation.

These district post graduate conferences have been gradually discontinued, in part because of lack of funds, but also because we recognized that, valuable as they were, they were but one phase in the development of the more complete academically arranged program towards which we have been proceeding. As the program developed, two and three week intensive courses have been put on in Detroit, and the specialized courses offered by the University have been markedly increased.

This year has seen the inauguration of a new development in this joint post graduate work. This program provides for centralized clinics to which the doctor may conveniently go one day each week for a period of three months. The carefully chosen program aims to cover considerable ground, for these are essentially general practitioners' courses. The clinical side is emphasized and the demonstra-

tions and lectures are given by experienced, well trained men who are from the faculty of the University Medical School, or are, by appointment, extramural members of the faculty of the Post Graduate Department. A tabulation of the attendance is made with the expectation that some form of credit will be given. The courses in the centers first designated, Flint, Grand Rapids and Battle Creek-Kalamazoo, have vied with each other in popularity, and have met with equal enthusiasm from those attending. Most enthusiastic comments are continually coming in to the secretary's office. The secretary agrees with his correspondents that this activity ranks well towards the top among all Society work, for we recognize that adequate medical care can only come from adequately prepared and trained medical men who, through the years, keep abreast of the advances in medicine.

The attendance at the last program exceeded our expectations. There was a total registration of 796, with an average weekly attendance of about 400. A questionnaire was sent out by the Director of the Department of Postgraduate Medicine to all registrants, with a request for comments and suggestions. About 300 replies have been received to date, all enthusiastic about the course and containing many suggestions that will be helpful in future programs. The development of more centers, particularly in the northern sections of the State, was urged and the Councillors from the Ninth, Tenth and Eleventh Districts indicate that these would be welcomed. At the last meeting of the Committee on Postgraduate Education, a tentative decision was arrived at to establish three, and possibly four, more centers this year. The details of this, together with the entire program, are expected to be ready for the March number of the Journal.

#### COUNTY SECRETARIES CONFERENCE

The recommendation is made that your Secretary be authorized to arrange for the annual Conference of County Secretaries at a time during the early spring months, to be approved by the Executive Committee. That actual travel expenses, and, when necessary, hotel expenses be authorized.

These conferences are of distinct value and material aid in maintaining county society activities.

#### COMMITTEES

As we extend our activities into many different though allied fields of endeavor, it becomes increasingly necessary to delegate to Committees certain problems for study, certain activities and certain powers—all subject, of course, to the general policy of the Society as determined by the House of Delegates or the Council. To these hard working Committees must be given the credit for much of the real constructive work which has given Michigan the reputation of being one of the most forward looking State Societies.

The House of Delegates at its 1933 meeting designated five standing Committees—Legislative, Joint Committee on Public Health Education, Cancer, Preventive Medicine and Economics. Each committee is most important in its own field. Special importance this year attaches to the Legislative Committee which shares its usual importance in this legislative year with the Economics Committee. Upon each of these two committees rests much responsibility. The profession expects them to guard well the rights and privileges of the profession, yet will resent activities which are not in conformity with majority opinion or instructions of the House of Delegates. They have a difficult and important job, made easier somewhat by the great confidence the profession has in the personnel of these Committees.

In any year but this the important Preventive Medicine Committee and the Cancer Committee would take an equally important place. The American Society for the Control of Cancer is, with the assistance of the State Society, just beginning its survey of the state. The year offers an exceptional opportunity for intensive educational work and the Cancer Committee is wide awake to its obligations.

I realize that members of other Committees may feel that their committee work is of equal importance though in a more limited field. Indeed it is natural that the earnest worker will emphasize the importance of the work he is doing and this presents a certain problem. As committee work increases in importance each committee looks for increased funds to carry on their investigations, and for increased powers that it may put into effect some of their conclusions.

The necessity for correlating the activities of the various committees has been brought before the Executive Committee by Doctor Luce, and fully concurred in. These activities must be correlated else there will be overlapping and unnecessary work and, where an approach is to be made to the public, confusion will almost always result. A closer contact between the committees and the secretary is advisable. Committee secretaries might well be instructed to send in full reports of each Committee meeting and committee activities, these reports to be transmitted to the Executive Committee at their next monthly meeting.

From time to time it seems necessary to state that committees must not give out information before official action has been taken or take unto themselves powers which have not been delegated to them. Under the By-laws notices which may be interpreted as definitely official should go out from the Secretary's office. These provisions are necessary for the proper correlations of society activities and for the maintenance of society unity.

The State Secretary's office and all its facilities are available at all times to every Committee.

#### EMERGENCY WELFARE RELIEF

I quote from a letter received from Mr. Haber, State Relief Administrator, in which he says: "I am sure you will be interested to know that for a first attempt, it (the State Emergency Relief) has worked remarkably well."

From the many letters which have come into this office and from such other information as is available to me, I am led to believe that the profession will, in general, concur with this statement. On the whole, the work has gone on with a fair degree of satisfaction. Certain areas have apparently had little reason to complain. Others have not fared so fortunately. I surmise that in those areas from where complaints come most frequently the fault lies most often with the County Administrator who does not understand the medical relief problem and is unsympathetic to both the doctor and the sick indigent.

Many of the writers of the letters which have come into the office have confused the function of the FERA with the County's responsibility. They have not understood that the welfare medical relief stops at the hospital door. The apparently well founded complaints in regard to the impositions placed upon the profession by Supervisors and other County officers remain largely a local problem. As desirous as the State Society may be to help, there is little that we can do. The exception to this has to do with hospitalization under the Afflicted Child Law passed last year. The injustice of this law seems so apparent that we have reasons to hope that the Legislative Committee may be successful in having the obnoxious clause removed at this session of the legislature.



Recently we have had many complaints in regard to the reduction of mileage allowance to 12½¢ a mile. I have written Mr. Haber calling his attention to the inadequacy of this allowance for the doctor who ploughs through bad roads and snow drifts and he has promised to take up this matter with his committee.

There have been no official criticisms presented to this office in regard to the failure of the doctor to coöperate. Apparently in largest measure the individual doctor has done his part, done it willingly, promptly and for only a fraction of his regular fee.

There remain some points of difference which would seem to suggest the desirability of our Advisory Committee again meeting with the State Relief Committee. Such a meeting I feel would be most advantageous in clearing up many of the minor misunderstandings.

#### ADMINISTRATION

For more than twenty years the details of administering the affairs of the Society have been under one man. In that period there has been a tremendous growth in membership. There has been the development of new concepts as regards the responsibility of the Society to its members which have demanded a great increase in our activities along many different lines. There has been an increasing acceptance of our responsibility to society, and this has added still further activities. The central office is a busy place. An excellent system for handling its financial affairs, and satisfactory equipment which permits relatively easy handling of correspondence, form and stock letters, has been developed by the former secretary.

A general knowledge of the secretary's problems obtained by the chairman of the council from contact over the years has made it possible for your acting secretary to keep the machinery going with relatively little squeaking. There is more detail associated with the work than was anticipated. For example, each renewed membership must be handled six times, each bit of advertising copy about the same number of times, and there seems to be no way of avoiding this.

Members feel free to and do consult the office on many different matters. Inquiries come in to the secretary from all over the country with a sprinkling of foreign letters. Just now inquiries having to do with welfare work and economics predominate, for information and advice is requested on most diverse matters. Last year the secretary reported an average of twelve letters a day from members and laity seeking such information and advice. We have not kept a record, but I know of one mail with more than forty pieces of first class matter.

It is most desirable that every effort be made by the secretary to make his office of the greatest assistance to every member. The office should be, as it tries to be, a reliable source of information to which any doctor, be he a member or not, any business man, any layman, can turn and receive a courteous, intelligent and authoritative answer to his inquiry.

As I close this report may I take occasion to express to you my appreciation of your many kindnesses to me, the support that you have given me over the years that I was honored by repeated elections to the chairmanship of this Council, and again during this brief period that I have served as your acting secretary. We are facing a crucial period with movements under way the end-results of which we cannot foresee, but I have great faith in this Society and great confidence in the mass judgment of the profession. To this Council the profession looks for advice, and for conservative, wise guid-

ance. My years of association with you permit me to say with great surety, that you will meet, as you have always met, this responsibility wisely and with great earnestness, fully justifying the confidence that is reposed in you.

Respectfully submitted,  
(Signed) BURTON R. CORBUS,  
*Acting Secretary.*

January 17, 1935.

#### SOCIETY EXPENSE—1934

<b>January</b>			
F. C. Warnshuis (Travel).....	\$ 50.00		
Western Union .....	15.56		
Detroit Clipping Bureau.....	5.15		
Addressograph Sales Agency.....	3.10		
Michigan Bell Telephone Co.....	3.90		
The College of Physicians of Philadelphia .....	1.00		
		\$	78.71
<b>February</b>			
F. C. Warnshuis (Travel).....	\$ 27.00		
Groskopf's .....	10.30		
Addressograph Sales Agency.....	1.04		
American Medical Association.....	3.00		
Detroit Clipping Bureau.....	13.25		
Michigan Bell Telephone Co.....	19.55		
Harry D. Beattie.....	7.50		
Western Union .....	7.82		
Dr. L. O. Geib—Reprints.....	15.00		
			104.46
<b>March</b>			
Michigan Bell Telephone Co.....	\$ 6.55		
F. C. Warnshuis, Sec'y Conference.....	27.50		
E. F. Sladek, Sec'y Conference.....	35.18		
W. E. Ward, Sec'y Conference.....	8.50		
H. B. Knapp, Sec'y Conference.....	9.60		
E. C. Hansen, Sec'y Conference.....	33.74		
Geo. F. Swanson, Sec'y Conference.....	30.40		
J. F. Carrow, Sec'y Conference.....	30.26		
L. L. Savage, Sec'y Conference.....	14.40		
Jos. N. Scher, Sec'y Conference.....	7.92		
L. F. Foster, Sec'y Conference.....	13.20		
J. Lawther, Sec'y Conference.....	9.00		
University of Mich. Union, Sec'y Conf.....	46.48		
F. M. Doyle, Sec'y Conference.....	10.80		
University of Michigan, Sec'y Conf.....	23.50		
B. J. Graham, Sec'y Conference.....	13.80		
Harold Kessler, Sec'y Conference.....	35.00		
K. C. Pierce, Sec'y Conference.....	20.64		
John M. Whalen, Sec'y Conference.....	18.62		
Florence Ames, Sec'y Conference.....	4.80		
C. G. Burke, Sec'y Conference.....	6.00		
R. L. Fink, Sec'y Conference.....	7.56		
F. L. S. Reynolds, Sec'y Conference.....	44.10		
W. J. Herrington, Sec'y Conference.....	16.80		
C. G. Clippert, Sec'y Conference.....	24.36		
E. J. Evans, Sec'y Conference.....	47.72		
Edwin P. Vary, Sec'y Conference.....	10.02		
Arthur F. Fischer, Sec'y Conference.....	46.50		
John J. McCann, Sec'y Conference.....	12.00		
Western Union .....	3.33		
Detroit Clipping Bureau.....	11.05		
Addressograph Sales Agency.....	3.39		
Drs. Geib and Campbell—Reprints.....	67.90		
			700.62
<b>April</b>			
F. C. Warnshuis (Travel).....	\$ 13.61		
Michigan Bell Telephone Co.....	12.20		
F. C. Warnshuis (Travel).....	23.86		
The Durant .....	15.07		
Addressograph Sales Agency.....	3.06		
Detroit Clipping Bureau.....	10.80		
Western Union .....	2.92		
Postage and Insurance on Coupons Returned .....	.23		
Master Reporting Co.....	166.86		
Dr. L. O. Geib—Reprints.....	15.00		
			263.61
<b>May</b>			
Michigan Bell Telephone Co.....	\$ 17.05		
Geo. LeFevre.....	274.00		
Western Union .....	7.10		
Addressograph Sales Agency.....	3.46		
Detroit Clipping Bureau.....	15.45		
			317.06
<b>June</b>			
Michigan Bell Telephone Co.....	\$ 4.23		
Addressograph Sales Agency.....	3.00		
Detroit Clipping Bureau.....	17.50		
Western Union .....	2.11		
Geo. C. Lucas.....	10.00		
F. C. Warnshuis (Travel).....	6.04		
Dr. L. O. Geib—Reprints.....	15.00		
			57.88



July	F. C. Warnhuus (Travel).....	\$250.00		August	U. S. Laundry.....	\$ .60	
	Michigan Bell Telephone Co.....	9.70			Office Furniture.....	50.00	
	Detroit Clipping Bureau.....	11.70			Accounts Written Off.....	32.50	
	Addressograph Sales Agency.....	1.93			Grand Rapids Insurance Co.....	62.50	
	Western Union.....	4.44			Bank Charges.....	.70	146.30
	Arthur Crabb.....	10.80	288.57	September	A. M. A. Directories.....	\$ 24.00	
August	George LeFevre.....	\$ 22.70			U. S. Laundry.....	.45	
	Michigan Bell Telephone Co.....	8.26			H. & R. Sign Co.....	5.00	
	Addressograph Sales Agency.....	1.85			Rugs.....	52.27	82.60
	Western Union.....	5.51			Bank Charges.....	.88	
	Detroit Clipping Bureau.....	7.65		October			
	Ellsworth Letter Shop.....	11.00			Abram O. Wheeler.....	\$ 4.25	
	Addressograph Sales Agency.....	1.26	58.23		Lamp.....	2.58	
September					G. R. Insurance Agency.....	5.78	
	Michigan Bell Telephone Co.....	\$ 25.23			Box Rent.....	5.50	
	Western Union.....	6.55			Endorsement Stamp.....	.60	
	Shank Storage Co.....	43.50			Bank Charges.....	.78	19.49
	George LeFevre.....	140.00		November			
	Young & Chaffee.....	24.00			Underwood Elliott Fischer Co.....	\$ 11.70	
	Columbia Storage & Transf. Co.....	5.00			Lamp and Shade.....	3.91	
	Postage and Insurance on Coupons				Bank Charges.....	1.24	16.85
	Returned.....	.68	244.96	December			
October					Grand Rapids Insurance.....	\$ 12.50	
	C. F. Jean—Janitor.....	\$ 5.00			Bank Charges.....	2.48	
	Columbia Storage & Transfer Co.....	2.00			Accounts Written Off.....	169.75	184.73
	Western Union.....	4.27	12.71				\$ 976.48
	Addressograph Sales Agency.....	1.44		PRINTING, STATIONERY AND SUPPLIES EXPENSE—1934			
November				January			
	Railway Express.....	\$ 1.89			Kessler Office Supplies.....	\$ 14.07	
	C. F. Jean—Janitor.....	2.00			Ward-Schopps Co.....	52.87	\$ 66.94
	Western Union.....	3.90	31.30	February			
	Addressograph Sales Agency.....	1.22			Kessler Office Supplies.....	\$ 12.39	
	Michigan Bell Telephone Co.....	8.40			Bixby Office Supply.....	2.94	
	Ward-Schopps Co.....	11.89			Ward-Schopps Co.....	30.61	45.94
	University of Chicago Press.....	2.00		March			
December					Kessler Office Supplies.....	\$ 7.89	
	C. F. Jean—Janitor.....	\$ 2.00			Ward-Schopps Co.....	25.73	33.62
	Dr. Wm. J. Cary.....	1.50		April			
	Michigan Bell Telephone Co.....	21.50			Ward-Schopps Co.....	\$ 42.79	
	Postal Telegraph Co.....	.63			The Forbes Stamp Co.....	1.70	
	Addressograph Sales Agency.....	2.14			Kessler Office Supplies.....	36.33	80.82
	Stekette & Sons.....	13.27	42.95	May			
	Western Union.....	1.91			Kessler Office Supplies.....		4.75
			\$ 2,201.06	June			
	Less two checks returned, uncashed.....	12.66	\$ 2,188.40		Maurice Pollock.....	\$ 2.58	
					Kessler Office Supplies.....	4.90	7.48
MISCELLANEOUS GENERAL OFFICE EXPENSE—1934				July			
January					Kessler Office Supplies.....	\$ 9.37	
	Interest on Note.....	\$ 26.25			Ward-Schopps Co.....	20.09	
	U. S. Laundry.....	.77			Maurice Pollack.....	3.61	33.07
	H. W. Ten Broek & Sons.....	50.00		August			
	Bank Charges.....	.66	\$ 77.68		Maurice Pollack.....	\$ 6.18	
February					Kessler Office Supplies.....	12.16	18.34
	H. W. Ten Broek & Sons.....	\$ 11.00		September			
	U. S. Laundry.....	1.01			Kessler Office Supplies.....		1.34
	Account Written Off.....	20.00		October			
	Interest on Note.....	25.83			Ward-Schopps Co.....	\$ 98.46	
	Bank Charges.....	.70	58.54		The Forbes Stamp Co.....	1.55	
March					Kessler Office Supplies.....	1.70	101.71
	U. S. Laundry.....	\$ .31		November			
	Ernst & Ernst.....	181.10			Kessler Office Supplies.....	\$ 4.64	
	Lights.....	1.08			Maurice Pollack.....	3.61	8.25
	Accounts Written Off.....	16.25		December			
	Bank Charges.....	.78	199.52		Kessler Office Supplies.....	\$ 5.86	
April					Ward-Schopps Co.....	1.65	7.51
	U. S. Laundry.....	\$ .80					\$ 409.77
	Underwood Elliott Fischer Co.....	1.50	3.08	POST GRADUATE CONFERENCES EXPENSE—1934			
	Bank Charges.....	.78		March			
May					Norman R. Kretschmar.....	\$ 33.69	
	Maurice Pollack, Inc.....	\$180.25			Raphael Isaacs.....	33.69	
	U. S. Laundry.....	1.02			A. C. Furstenberg.....	33.69	
	Bank Charges.....	1.48	182.75		Chas. L. Brown.....	10.00	
June					Eugene Potter.....	31.90	
	U. S. Laundry.....	\$ .60	1.54				\$ 142.97
	Bank Charges.....	.94					
July							
	Frank D. Fitzgerald.....	\$ 2.00	3.40				
	U. S. Laundry.....	.60					
	Bank Charges.....	.80					

## May

Louis J. Hirschman.....	\$ 25.71
Fred H. Cole.....	5.50
Chas. Brown.....	38.69
Eugene Potter.....	4.80
John Muyskens.....	24.80

## June

F. C. Warnshuis.....	18.39
----------------------	-------

## August

F. C. Warnshuis.....	9.37
----------------------	------

## September

John L. Garvey.....	\$ 15.10
Chas. L. Brown.....	88.40

## November

Chas. E. Boys.....	\$ 20.00
Carl D. Camp.....	40.00
A. M. Campbell.....	20.00
Fred A. Collar.....	20.00
John J. Corbett.....	20.00
Elmer L. Eggleston.....	20.00
Hugo A. Freund.....	20.00
Louis Hirschman.....	20.00
John T. Hodgen.....	20.00
C. S. Kennedy.....	20.00
Fred C. Kidner.....	20.00
Floyd H. Lashmet.....	20.00
Roy D. McClure.....	20.00
Richard M. McKean.....	20.00
Wm. H. Marshall.....	20.00
E. G. Martin.....	20.00
Norman Miller.....	20.00
John C. Montgomery.....	20.00
Russell L. Mustard.....	20.00
Louis H. Newburgh.....	40.00
Robert L. Novy.....	20.00
Wm. S. O'Donnell.....	20.00
Max M. Peet.....	20.00
Grover C. Penberthy.....	20.00
Heinrich A. Reye.....	20.00
Ward F. Seeley.....	20.00
Frederick Schrieber.....	20.00
Clyde E. Vreeland.....	20.00
Geo. Van Rhee.....	20.00
R. W. Waggoner.....	20.00
Udo J. Wile.....	20.00
Frank N. Wilson.....	20.00
Orus B. Yoder.....	20.00
John M. Dorsey.....	20.00

## December

Wm. Blodgett.....	\$ 20.00
Myrton S. Chambers.....	20.00
Bruce H. Douglas.....	20.00
Daniel P. Foster.....	20.00
Joseph A. Johnston.....	20.00
Harold Henderson.....	20.00

120.00  
\$ 1,213.73

## ECONOMICS COMMITTEE

## RECEIPTS AND DISBURSEMENTS—1934

## Disbursements

## January

Philip Riley.....	\$ 7.91
Hotel Statler.....	12.98
United States Lines.....	650.60
H. A. Luce—Expenses.....	975.00
Nathan Sinai—Expenses.....	653.31
Stenographic Services.....	325.00
Stationery, Postage, Supplies.....	596.09

\$ 3,220.89

## March

Nathan Sinai—Salary.....	\$250.00
Nathan Sinai—Salary.....	350.00
Ellsworth Letter Shop.....	4.85
W. H. Marshall.....	6.40
Edwards Brothers.....	68.96
H. A. Luce (Honorarium).....	500.00
Nathan Sinai—Salary.....	\$500.00
Nathan Sinai—Expense.....	11.22
Slater's, Inc.....	511.22
Michigan Bell Telephone Co.....	10.40
University of Michigan.....	43.31
O. D. Morrill.....	2.98
F. C. Warnshuis.....	3.50
I. W. Greene.....	10.35
Nathan Sinai—Salary.....	48.48
Nathan Sinai—Salary.....	500.00

2,310.45

## April

Postage.....	\$ 40.00
Nathan Sinai—Salary.....	\$500.00
Nathan Sinai—Expense.....	13.60
University of Chicago Press.....	513.60
University of Michigan.....	1.74
Edwards Letter Shop.....	15.62
George Wahr.....	.50
Jeannette Noble.....	22.47
Check Tax.....	100.00
B. R. Corbus.....	.22
B. R. Corbus.....	100.00

794.15

## May

Railway Express.....	\$ 6.36
Nathan Sinai—Salary.....	\$250.00
Nathan Sinai—Expense.....	70.34
Inter-State Postgraduate Ass'n.....	320.34
O. D. Morrill.....	6.75
Michigan Bell Telephone Co.....	3.50
University of Michigan.....	14.80
University of Michigan Union.....	9.17
W. V. Marshall.....	2.37
M. Rose Nabors.....	15.00
University of Michigan.....	10.00
Milbank Memorial Fund.....	35.10
Check Tax.....	1.00
O. D. Morrill.....	.18
R. Welch.....	3.10
Jeannette Noble.....	25.00
Geo. Wahr.....	100.00
Check Tax.....	21.59
F. A. Baker.....	.10
Ellsworth Letter Shop.....	26.79
Hotel Owosso.....	25.50
Philip Riley.....	13.56
Philip Riley.....	34.25

674.46

## June

I. W. Greene.....	\$ 18.00
F. C. Warnshuis.....	16.59
F. C. Warnshuis.....	22.60
W. H. Marshall.....	219.81
Nathan Sinai—Expenses.....	57.10

334.10

## July

L. G. Christian.....	\$ 40.13
O. D. Morrill.....	5.25
N. Sinai—Salary.....	375.00
Jeannette Noble.....	150.00
Mayer-Schairer.....	.93
University of Michigan.....	36.45
G. B. Vehn.....	30.00
Geo. Wahr.....	2.78

640.54

## August

F. A. Baker.....	\$ 9.48
Philip Riley.....	11.40
Butterfield, Keeney & Amberg.....	150.00
Geo. Wahr.....	40.73
O. D. Morrill.....	3.50
Michigan Union.....	1.65
University of Michigan.....	.55
Michigan Bell Telephone Co.....	4.23
June A. Hakes.....	5.00
Jeannette Noble.....	125.00
Nathan Sinai—Salary.....	\$250.00
Nathan Sinai—Expense.....	34.25
Postage.....	284.25
W. H. Marshall.....	25.00
W. H. Marshall.....	62.05

722.84

## September

I. W. Greene.....	\$ 22.20
C. T. Ekelund.....	1.50
Hotel Olds.....	5.70
W. H. Marshall.....	13.40
O. D. Morrill.....	3.50
Michigan Union.....	9.52
University of Michigan.....	23.60
Jeannette Noble.....	136.40
Michigan Bell Telephone Co.....	12.83
N. Sinai—Salary.....	\$250.00
N. Sinai—Expense.....	25.08

503.73

## October

I. W. Greene.....	\$ 9.60
Ellsworth Letter Shop.....	16.75
Hotel Hayes.....	9.23
University of Michigan.....	32.14
University of Michigan.....	2.89
O. D. Morrill.....	3.50
Geo. Wahr.....	10.98
N. Sinai—Salary.....	250.00
Jeannette Noble.....	125.00

460.09

November		
Postage .....	22.50	
December		
Edwards Bros. ....	\$360.26	
E. M. Espelie.....	20.00	
Geo. Wahr.....	17.84	
University of Michigan.....	49.27	
N. Sinai—Expense.....	4.78	
Brumfield & Brumfield.....	1.05	
Jeannette Noble.....	57.00	
Ward-Schopps.....	1.65	
Donald Graverson.....	1.50	
	513.35	
	\$10,197.10	

ECONOMICS COMMITTEE  
RECEIPTS AND DISBURSEMENTS—1934

Receipts		
January		
Tracy W. McGregor Fund.....	\$3,500.00	
Sale of Survey Reports.....	7.50	
	\$ 3,507.50	
February		
Sale of Survey Reports.....	12.50	
March		
American College of Dentists.....	\$ 350.00	
Tracy W. McGregor Fund.....	2,000.00	
Sale of Survey Reports.....	46.35	
	2,396.35	
April		
Tracy W. McGregor Fund.....	\$1,000.00	
Sale of Survey Reports.....	17.50	
	1,017.50	
May		
Tracy W. McGregor Fund.....	\$1,000.00	
Sale of Survey Reports.....	25.75	
	1,025.75	
June		
Society Funds Transferred to Economics Committee .....	\$ 500.00	
Sale of Survey Reports.....	17.50	
	517.50	
July		
Twentieth Century Fund.....	\$ 625.41	
Sale of Survey Reports.....	7.75	
	633.16	
August		
Twentieth Century Fund.....	489.91	
September		
Twentieth Century Fund.....	\$ 460.93	
Sale of Survey Reports.....	5.00	
	465.93	
October		
Twentieth Century Fund.....	\$ 424.51	
Sale of Survey Reports.....	7.50	
	432.01	
November		
Sale of Survey and Postgraduate Reports .....	17.50	
December		
Sale of Survey and Postgraduate Reports .....	7.00	
	\$10,522.61	
Receipts .....	\$10,522.61	
Disbursements .....	10,197.10	
Balance .....	\$ 325.51	

## COUZENS FOUNDATION

	Credit
Balance from 1932.....	\$ 39.37
JOINT COMMITTEE RECEIPTS AND DISBURSEMENTS—1934	
Receipts	
Balance from 1933.....	\$ 549.88
January	
Detroit News .....	153.84

February		
Detroit News .....	96.15	
March		
Detroit News .....	76.92	
April		
Detroit News .....	76.92	
May		
Detroit News .....	96.15	
June		
Transfer of Society Funds to This Account .....	\$500.00	
Detroit News .....	76.92	
	576.92	
August		
Detroit News .....	173.07	
September		
Detroit News .....	76.92	
October		
Detroit News .....	76.92	
November		
Detroit News .....	96.15	
	\$ 2,049.84	

## JOINT COMMITTEE RECEIPTS AND DISBURSEMENTS—1934

Disbursements		
January		
Mabel Kelly .....	\$100.00	
Herman Riecker .....	75.00	
	\$ 175.00	
February		
Mabel Kelly .....	\$100.00	
Herman Riecker .....	75.00	
	175.00	
March		
Mabel Kelly .....	\$100.00	
Herman Riecker .....	75.00	
The Mayer-Schairer .....	6.18	
	181.18	
April		
Mabel Kelly .....	\$100.00	
Herman Riecker .....	75.00	
Don C. Lyons.....	48.00	
University of Michigan.....	4.11	
	227.11	
May		
Mabel Kelly .....	\$100.00	
Herman Riecker .....	75.00	
	175.00	
June		
Mabel Kelly .....	\$100.00	
Herman Riecker .....	75.00	
	175.00	
July		
Mabel Kelly .....	\$100.00	
Herman Riecker .....	75.00	
	175.00	
August		
Mabel Kelly .....	\$100.00	
Herman Riecker .....	75.00	
O. D. Morrill.....	3.09	
University of Michigan.....	10.04	
	188.13	
September		
Mabel Kelly .....	\$100.00	
Herman Riecker .....	75.00	
	175.00	
October		
Mabel Kelly .....	\$100.00	
Herman Riecker .....	75.00	
	175.00	
November		
Mabel Kelly .....	\$100.00	
Herman Riecker .....	75.00	
Don C. Lyons.....	42.00	
	217.00	
	\$2,038.42	
Receipts .....	\$ 2,049.84	
Disbursements .....	2,038.42	
Balance .....	\$ 11.42	

## EXPENSES—1934

	Editor Salary	Editor Expense	Rent	Postage	Reprint Expense	Secretary	Stenographers
January .....	\$ 187.50	\$ 41.66	\$ 116.00	\$ 39.00	\$ 71.95	\$ 333.00	\$ 138.00
February .....	187.50	41.66	116.00	40.00	110.70	333.00	162.00
March .....	187.50	41.66	116.00	.....	137.12	333.00	120.00
April .....	187.50	41.66	116.00	53.00	299.90	333.00	138.00
May .....	187.50	41.66	116.00	.....	.....	333.00	138.00
June .....	187.50	41.50	116.00	15.00	172.30	333.00	138.00
July .....	187.50	41.66	116.00	26.00	52.75	333.00	138.00
August .....	187.50	41.66	116.00	20.00	269.10	333.00	240.00
September .....	187.50	41.66	68.00	17.50	101.95	500.00	116.00
October .....	187.50	41.66	68.00	39.50	.....	333.00	125.00
November .....	187.50	41.66	68.00	.....	34.15	333.00	135.00
December .....	187.50	41.90	68.00	.....	138.70	336.00	135.00
	\$2,250.00	\$500.00	\$1,200.00	\$250.00	\$1,388.62	\$4,166.00	\$1,723.00



DELEGATES TO AMERICAN MEDICAL ASSOCIATION  
EXPENSES—1934

June			
	H. A. Luce.....	\$ 42.50	
	C. S. Gorsline.....	62.00	
	Carl F. Moll.....	48.50	
			\$ 153.00
July			
	Louis J. Hirschman.....	\$ 46.20	
	J. D. Brook.....	58.40	
			104.60
			\$ 257.60

## PREVENTIVE MEDICINE EXPENSE—1934

August			
	Claude R. Keyport.....	\$ 95.64	
	L. F. Foster.....	61.20	
	R. H. Holmes.....	36.84	
	James J. O'Meara.....	55.20	
			\$ 248.88
September			
	Clifford T. Ekelund.....	6.96	
			\$ 255.84

## LEGISLATIVE COMMITTEE EXPENSES—1934

January			
	James B. Bradley.....	\$ 12.69	
February			
	James B. Bradley.....	\$ 40.63	
	Robert J. Douglas.....	30.26	
			70.89
March			
	James B. Bradley.....	\$ 80.74	
	Pantlind Hotel.....	8.24	
	Robert J. Douglas.....	18.85	
			107.83
April			
	James B. Bradley.....	35.75	
May			
	James B. Bradley.....	\$ 16.21	
	Philip Riley.....	17.15	
			33.36
July			
	James B. Bradley.....	\$328.81	
	L. G. Christian.....	19.75	
			348.56
August			
	Philip Riley.....	4.80	
October			
	Hotel Hayes.....	8.01	
November			
	James B. Bradley.....	\$ 78.71	
	B. R. Corbus.....	20.44	
	Philip Riley.....	25.82	
			124.97
December			
	James B. Bradley.....	\$189.45	
	Philip Riley.....	27.00	
	L. G. Christian.....	78.24	
			294.69
			\$ 1,041.55

## COUNCIL EXPENSES—1934

Note: Executive Committee Expenses are included in Chairman's and Secretary's accounts.

January			
	Palmer House.....	\$ 83.75	
	F. C. Warnshuis.....	100.00	
	F. A. Baker.....	37.02	
	H. A. Luce.....	15.90	
	G. C. Hafford.....	8.47	
	Burton R. Corbus.....	182.93	
	Henry Cook.....	32.36	
	Ellsworth Letter Shop.....	36.50	
	Richard R. Smith.....	46.96	
	Chas. E. Boys.....	94.32	
	H. E. Perry.....	45.96	
	Thos. P. Treynor.....	20.00	
	H. H. Cummings.....	10.32	
	W. A. Manthei.....	52.68	
			\$ 767.17
February			
	Henry R. Carstens.....	\$ 40.46	
	Hotel Statler.....	40.56	
	Theo. Heavenrich.....	10.55	
	Wm. A. Hyland.....	22.00	
	B. H. Van Leuven.....	28.28	
			141.85
March			
	F. A. Baker.....	\$ 16.08	
	H. A. Luce.....	14.11	
	Henry Cook.....	31.05	
			61.24
April			
	Burton R. Corbus.....	69.22	
May			
	Hotel Olds.....	\$ 25.64	
	Henry R. Carstens.....	32.90	
			58.54

June			
	H. A. Luce.....		15.86
July			
	Henry R. Carstens.....		17.01
August			
	F. C. Warnshuis.....	\$ 5.28	
	F. A. Baker.....	40.80	
	Burton R. Corbus.....	89.50	
	J. Earl McIntyre.....	168.95	
			304.53
September			
	F. C. Warnshuis.....	\$ 65.84	
	Geo. Hafford.....	6.52	
	Harlan MacMullen.....	24.28	
	H. E. Perry.....	58.50	
	F. A. Baker.....	18.02	
	H. H. Cummings.....	6.75	
	W. A. Manthei.....	45.50	
	Burton R. Corbus.....	10.56	
	R. R. Smith.....	10.77	
			246.74
October			
	Burton R. Corbus.....	\$ 21.80	
	Theo. Heavenrich.....	16.70	
	Hotel Olds.....	11.23	
	Chas. E. Boys.....	9.00	
	Henry Cook.....	22.40	
	Grover C. Penberthy.....	10.00	
			91.13
November			
	Burton R. Corbus.....		8.94
December			
	Paul R. Urnston.....	\$ 53.56	
	Theo. Heavenrich.....	41.44	
	Hotel Olds.....	19.68	
	H. A. Luce.....	11.85	
	Henry R. Carstens.....	14.13	
			140.66
			\$ 1,922.89

## JOURNAL EXPENSES—1934

January			
	Bruce Publishing Co. ....	\$485.36	
	Barlow Bros. ....	23.18	
			\$ 508.54
February			
	Bruce Publishing Co. ....		657.55
March			
	Bruce Publishing Co. ....		563.87
April			
	Bruce Publishing Co. ....		563.45
May			
	Bruce Publishing Co. ....		761.46
June			
	Bruce Publishing Co. ....		603.32
July			
	Bruce Publishing Co. ....		661.82
August			
	Bruce Publishing Co. ....		656.12
September			
	Bruce Publishing Co. ....		556.44
October			
	Bruce Publishing Co. ....		471.40
November			
	Bruce Publishing Co. ....		707.25
December			
	Bruce Publishing Co. ....	\$555.06	
	Postage.....	200.00	
			755.06
			\$7,466.28

## ANNUAL MEETING EXPENSES—1934

January			
	A. R. Woodburne.....	\$ 18.60	
February			
	Ward E. Collins.....	\$ 16.80	
	Edward P. Wilbur.....	16.80	
	Merrill Wells.....	9.16	
			42.76
April			
	F. C. Warnshuis.....		12.56
May			
	Pantlind Hotel.....		15.35
June			
	Frank Mester.....	\$ 3.00	
	Thomas Blue Print Shop.....	4.64	
			7.64
August			
	F. C. Warnshuis.....		3.25
September			
	Roger L. Warnshuis.....	\$ 47.00	
	F. C. Warnshuis.....	75.00	
	Emily Graversen.....	25.00	
	St. Louis Button Co. ....	59.90	
	Bruce Publishing Co. ....	77.98	
	Post Tavern.....	27.89	
	W. K. Kellogg Hotel.....	9.00	
	Loyal Davis.....	17.83	
	A. R. Woodburne.....	1.26	
	Marion B. Sulzberger.....	76.77	

W. McK. Marriott .....	34.18	
Wm. A. Thomas .....	19.00	
Elliott Cutler .....	90.00	
Conrad Berens .....	50.00	
Jos. L. Baer .....	21.70	
		632.51
<b>October</b>		
Perrin H. Long .....	\$ 59.06	
Master Reporting Co. ....	157.20	
Michigan Bell Tel. Co., Battle Creek	11.00	
		227.26
<b>November</b>		
P. A. Bendixen .....		31.80
	\$ 991.73	
Credit for Exhibit Booths Sold.....	970.18	
		\$ 21.55

## MEDICO-LEGAL DEFENSE

## RECEIPTS AND DISBURSEMENTS—1934

## Receipts

<b>January</b>		
Dues .....		\$ 367.17
<b>February</b>		
Dues .....		537.45
<b>March</b>		
Dues .....		816.00
<b>April</b>		
Dues .....	\$829.75	
Interest on Bonds .....	165.00	
		994.75
<b>May</b>		
Dues .....		383.10
<b>June</b>		
Dues .....		255.98
<b>July</b>		
Dues .....		178.75
<b>August</b>		
Dues .....	\$ 59.00	
Interest on Bonds .....	265.34	
		324.34
<b>September</b>		
Dues .....		54.00
<b>October</b>		
Dues .....		28.08
<b>November</b>		
Dues .....		42.00
<b>December</b>		
Dues .....	\$ 28.50	
Interest on Bonds .....	125.00	
		153.50
		\$ 4,135.12
Less Adjustment made by Auditors..		226.00
		\$ 3,909.12

## Disbursements

<b>January</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
Wm. J. Stapleton, Jr., Expense.....	4.10	
Douglas, Barbour .....	461.50	
		\$ 548.93
<b>February</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
Douglas, Barbour .....	25.00	
		108.33
<b>March</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
Douglas, Barbour .....	106.50	
		189.83
<b>April</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
Wm. J. Stapleton, Jr., Expense.....	5.53	
Douglas, Barbour .....	951.70	
Theron Langford .....	100.00	
		1,140.56
<b>May</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
Douglas, Barbour .....	456.88	
		540.21
<b>June</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
Douglas, Barbour .....	629.19	
		712.52
<b>July</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
Wm. J. Stapleton, Jr., Expense.....	12.09	
Douglas, Barbour .....	297.80	
		393.22
<b>August</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
Douglas, Barbour .....	474.97	
		558.30
<b>September</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
Douglas, Barbour .....	189.40	
		272.73

<b>October</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
National Law Ptg. Co.....	22.98	
		106.31
<b>November</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
Wm. J. Stapleton, Jr., Expense.....	1.56	
Douglas, Barbour .....	364.05	
National Law Ptg. Co. ....	249.19	
		698.13
<b>December</b>		
Wm. J. Stapleton, Jr., Salary.....	\$ 83.33	
Douglas, Barbour .....	100.00	
		183.33
		\$ 5,452.40
Receipts .....		3,909.12
Loss .....		\$ 1,543.28

## CANCER COMMITTEE EXPENSE—1934

<b>March</b>		
Railway Express .....	\$ 8.76	
Postage .....	46.50	
		\$ 55.26

## RADIO COMMITTEE EXPENSE—1934

<b>November</b>		
W. J. Stapleton, Jr. ....		\$ 2.00

Grand Rapids, January 7, 1935

Michigan State Medical Society,  
Grand Rapids, Michigan.

We have made an examination of the balance sheet of the MICHIGAN STATE MEDICAL SOCIETY as at December 24, 1934, and of the statement of income for the fiscal year ended at that date. In connection therewith we examined or tested accounting records of the Society and other supporting evidence, and obtained information and explanations from the Secretary and bookkeeper of the Society; we also made a general review of the accounting methods and of the operating and income accounts for the year, but we did not make a detailed audit of the transactions.

In addition to our examination of the balance sheet and statement of income, we made certain test checks of the recorded cash transactions and of other data supporting the accounts and records, as hereinafter outlined. We also reviewed the receipts and disbursements in the several funds administered by the Society.

The Society was incorporated on September 17, 1910, under the laws of the State of Michigan as a corporation not for pecuniary profit. It is affiliated with the American Medical Association, and charters the county medical societies within the State. The purpose of the Society is the federation and protection of the medical profession and the extension of medical knowledge. The Society publishes THE JOURNAL of the Michigan State Medical Society.

## FINANCIAL ANALYSIS

The balance sheet included herein, in our opinion, fairly presents the position of the Society as of December 24, 1934, on the basis outlined in this report. The following summary shows a comparison of the assets and liabilities at the beginning and end of the year:

	Dec. 24 1934	Dec. 23 1933	Increase Decrease
Cash .....	\$ 3,405.80	\$ 1,044.43	\$ 2,361.37
Notes and accounts receivable .....	781.77	1,482.73	700.96
Securities—at cost, less allowance .....	20,710.00	18,310.00	2,400.00
Deferred expenses .....		54.62	54.62
	\$24,897.57	\$20,891.78	\$ 4,005.79
<b>Liabilities</b>			
Notes payable .....	\$	\$ 2,500.00	\$ 2,500.00
Accounts payable .....	537.80	889.87	352.07
Unearned Income .....	1,012.11	928.75	83.36
Reserve for Medico-Legal Defense Fund .....	11,139.75	11,808.03	668.28
Net worth .....	12,207.91	4,765.13	7,442.78
	\$24,897.57	\$20,891.78	\$ 4,005.79

Notes receivable—for dues—represent the uncollected portion of notes accepted in payment of dues for the years 1931, 1932 and 1933. During the year, notes due from individuals who were delinquent in dues for the year 1934 were written off as uncollectible.

Accounts receivable from advertisers and exhibitors were analyzed as to date of charge, and are classified in comparison with the balances at December 23, 1933.

The balance due from county societies represents dues collected for the Society and subsequently impounded in depository banks, and is to be paid as the funds are released by the banks.

Accounts receivable for medical histories sold are accounts carried over from previous years with but \$5.60 liquidated during the year.

Based upon our analysis of the notes and accounts, and conference with the Secretary and bookkeeper as to their collectibility, it is our opinion that the allowance in the amount of \$650.00 is sufficient to care for losses anticipated at the date of this report.

An exhibit of bonds owned is included as a part of this report which sets forth the par value, cost, and quoted market values as of December 24, 1934. Unlisted securities have been valued from information furnished by brokers as to the latest bid and sales prices.

As far as we could ascertain, provision has been made for all known liabilities at December 24, 1934. Unexpended balances in funds administered by the Society are as shown by the books, without adjustment for unpaid invoices and expenses. The receipts and disbursements in these funds are summarized in exhibits included as a part of this report.

Remittances for 1935 dues have been shown as unearned income, and, in our opinion, represent income applicable to the ensuing year.

An analysis of the changes in the Medico-Legal Defense Fund is included as an exhibit herein. It will be noted that the income of \$3,945.62, consisting of \$1.00 from each member's dues and of interest received on bonds, was inadequate to cover expenses incurred during the year and resulted in a net reduction of \$1,506.78 in the amount available for legal defense. During the previous year an amount of \$2.00 from each member's dues was allocated to this fund. Attention is directed to the fact that the Society general fund is utilizing a portion of the assets belonging to the Medico-Legal Defense Fund, inasmuch as cash on hand at December 24, 1934, is not sufficient to make up the difference between the total fund and the net value of bonds held for the Medico-Legal Defense Fund.

Net worth of the Society increased \$7,412.78 during the year, of which \$1,525.00 was due to a reduction in the provision made in prior years to reduce securities to approximate market values. The increase of \$5,917.78 from operations was partially attributable to the increase in the proportion of dues allocated to the Society activities.

Surety bonds on the Secretary and Treasurer in the amounts of \$5,000.00 and \$25,000.00, respectively, were examined by us.

#### OPERATIONS

We have made an examination of the statement of income and expense for the fiscal year ended December 24, 1934, and in connection therewith we ex-

amined or tested accounting records of the Society and other supporting evidence, and obtained information and explanations from the Secretary and bookkeeper; we also made a general review of the accounting methods and of the operating and income accounts for the year. The scope and extent of our tests of the detail of transactions during the year are outlined in a later section of this report.

The income of the Society increased in excess of \$5,000.00, due principally to the allocation of a higher percentage of dues to the Society, as heretofore stated, and to revenue from the JOURNAL.

The reduction in committee expenses was in part responsible for the better showing for the year, although all other classifications showed increased costs. Expense accounts for the year ended December 23, 1933, have been reclassified to compare with the expenses shown for the current year.

#### SCOPE OF EXAMINATION

The scope and nature of our examination and the extent of the tests of the detail transactions are outlined in the following comments:

Cash on deposit was verified by direct correspondence with the depository bank and reconciliation of the balance thereby reported with the amount shown herein. Cash receipts for several months were traced to deposits as shown by bank statements on file. The recorded cash disbursements for three months selected by us were compared with canceled checks, invoices and other memoranda.

Notes receivable were inspected by us during the course of our examination. Advertisers' and other accounts were found to be in agreement with trial balances of the individual accounts. We did not correspond with any of the debtors to confirm the correctness of the book records.

Bonds owned were inspected by us and quotations were obtained to ascertain their approximate market value at December 24, 1934.

We did not correspond with vendors as a test of the accounts payable.

In addition to the tests heretofore outlined, we tested the amount of dues collected by comparison with the record of membership certificates issued and with the membership records. Interest received was verified by inspection of unclipped coupons. We also reviewed the disbursements made in the various funds administered by the Society and found a large percentage of the disbursements to be supported by statements or other memoranda. Many disbursements made for the account of the Economics Committee were not supported by original invoices, these having been retained by the Director to support vouchers paid directly by him.

In our opinion, based upon our examination, the accompanying balance sheet and statement of income fairly present, on the basis herein outlined, the position of the Society at December 24, 1934, and the results of its operations for the year. Further, it is our opinion that the statement has been prepared in accordance with accepted accounting principles and on a basis consistent with the preceding year, except for the reduction in the portion of membership dues allocated to the Medico-Legal Defense Fund.

ERNST & ERNST,

*Certified Public Accountants.*



BALANCE SHEET  
MICHIGAN STATE MEDICAL SOCIETY  
DECEMBER 24, 1934

Assets		
Cash		
On deposit—Old Kent Bank .....	\$ 2,872.05	
Certificate of deposit—Old Kent Bank.....	533.75	
		\$ 3,405.80
Notes and Accounts Receivable		
For dues .....	\$ 140.00	
For advertising .....	65.00	
		\$ 205.00
Accounts receivable:		
Advertisers and exhibitor .....	\$ 1,026.73	
Due from county societies.....	108.64	
For medical histories .....	91.40	
		1,226.77
	\$ 1,431.77	
	650.00	
		781.77
Less allowance for doubtful.....		
Securities		
Bonds—at cost .....	\$41,518.75	
Less allowance to reduce to quoted market value.....	20,808.75	
		20,710.00
		<u>\$24,897.57</u>
Liabilities		
Accounts Payable		
Advances for reprints and advertising .....		\$ 161.50
Liability for Funds Administered		
Economics Committee—McGregor Fund .....	\$ 325.51	
Couzens Foundation .....	39.37	
Joint Committee on Public Health Education.....	11.42	
		376.30
Unearned Income		
Dues for the year 1935.....		1,012.11
Reserve		
For Medico-Legal Defense Fund.....		11,139.75
Net Worth		
Balance at December 24, 1933.....	\$ 4,765.13	
Net gain for the year ended December 24, 1934.....	5,917.78	
Reduction in allowance to reduce bonds to approximate market value.....	1,525.00	
		12,207.91
		<u>\$24,897.57</u>

This balance sheet is subject to the comments contained in this report.

INCOME AND EXPENSE  
MICHIGAN STATE MEDICAL SOCIETY

	Income	FISCAL YEAR ENDED		INCREASE DECREASE
		Dec. 24, 1934	Dec. 23, 1933	
Membership fees .....		\$20,010.85	\$16,021.50	\$ 3,989.35
Journal subscriptions .....		5,172.22	4,789.67	382.55
Advertising sales .....		7,037.00	6,750.79	286.21
Reprint sales .....		1,689.15	1,249.28	439.87
Interest received .....		1,146.33	1,210.01	63.68
Journal cuts sold.....		247.94	115.27	132.67
Miscellaneous income .....		17.66	10.00	7.66
		<u>\$35,321.15</u>	<u>\$30,146.52</u>	<u>\$ 5,174.63</u>
Expenses (As Shown by Exhibit)				
Administrative and general office .....		\$ 8,775.14	\$ 8,519.56	\$ 255.58
Society activities .....		4,114.71	3,191.76	922.95
Committee expenses .....		3,568.38	8,261.70	4,693.32
Journal expenses .....		12,706.64	11,424.68	1,281.96
		<u>\$29,164.87</u>	<u>\$31,397.70</u>	<u>\$ 2,232.83</u>
Other Deductions				
Loss on bonds sold, less allowance provided.....		\$	\$ 350.00	\$ 350.00
Bad accounts charged off and provided for.....		238.50	479.25	240.75
		<u>\$ 238.50</u>	<u>\$ 829.25</u>	<u>\$ 590.75</u>
		<u>\$29,403.37</u>	<u>\$32,226.95</u>	<u>\$ 2,823.58</u>
NET INCOME OR DEFICIT.....		\$ 5,917.78	\$2,080.43	\$ 7,998.21

EXPENSES  
MICHIGAN STATE MEDICAL SOCIETY

	FISCAL YEAR ENDED		INCREASE DECREASE
	Dec. 24, 194	Dec. 23, 1933	
Administrative and General			
Secretary's salary .....	\$ 4,166.00	\$ 4,000.00	\$ 166.00
Stenographers' salaries .....	1,723.00	1,739.00	16.00
Office rent .....	1,200.00	1,400.00	200.00
Printing, stationery and supplies.....	409.77	286.04	123.73
Postage .....	250.00	432.34	182.34
Auditing .....	181.10	202.87	21.77
Insurance and fidelity bonds .....	136.00	145.00	9.00
Interest paid .....	52.08	140.69	88.61
Furniture and equipment purchased.....	282.52		282.52
Moving and storage expense.....	85.77	12.00	73.77
Telephone and telegraph.....	202.62	93.36	109.26
Unclassified .....	86.28	68.26	18.02
	<u>\$ 8,775.14</u>	<u>\$8,519.56</u>	<u>\$ 255.58</u>

## Society Activities

Annual meeting, less income from exhibits.....	\$ 21.55	\$ 462.42	\$ 440.87
Council expenses .....	1,922.89	913.67	1,009.22
Delegates to American Medical Association.....	257.60	217.09	40.51
Secretary's conference .....	608.40	761.08	152.68
Traveling expense .....	807.21	437.56	369.65
Reporting—annual meeting .....	166.86	192.51	25.65
Sundry society expense .....	330.20	207.43	122.77

## Committee Expenses

Legislative committee .....	\$ 1,041.55	\$ 2,538.80	\$ 1,497.25
Post-graduate conference .....	1,213.73	278.75	934.98
Economics committee—appropriation .....	500.00	25.61	474.39
Joint committee on public health education—appropriation.....	500.00	.....	500.00
Cancer committee .....	55.26	.....	55.26
Preventive medicine .....	255.84	20.00	235.84
Survey of medical services and health agencies.....	.....	5,378.08	5,378.08
Radio committee .....	2.00	.....	2.00
Civic and industrial relations committee.....	.....	20.46	20.46

## Journal Expenses

Editor's salary .....	\$ 2,250.00	\$ 2,500.00	\$ 250.00
Editor's expenses .....	500.00	649.28	149.28
Printing .....	7,316.28	6,072.57	1,243.71
Reprints .....	1,388.62	995.70	392.92
Discount and commission on advertising sales.....	1,101.74	1,207.13	105.39
Postage .....	150.00	.....	150.00

TOTAL .....	\$29,164.87	\$31,397.70	\$ 2,232.83
-------------	-------------	-------------	-------------

RECEIPTS AND DISBURSEMENTS—ECONOMICS COMMITTEE  
MICHIGAN STATE MEDICAL SOCIETY  
FISCAL YEAR ENDED DECEMBER 24, 1934

## Receipts

Tracy McGregor Foundation .....	\$ 7,500.00	
Twentieth Century Fund, Inc. ....	2,000.76	
Michigan State Medical Society.....	500.00	
American College of Dentists.....	350.00	
Proceeds from sale of reports of committee on Survey of Medical Services and Health Agencies.....	171.85	
		\$10,522.61

## Disbursements

Nathan Sinai—director's salary.....	\$3,475.00	
Nathan Sinai—expenses .....	1,386.78	
H. A. Luce—expenses .....	975.00	
H. A. Luce—honorarium .....	500.00	
U. S. Lines—passage.....	650.60	
Stenographic and clerical salaries.....	918.40	
Committee expenses .....	693.93	
Stationery, postage and supplies.....	1,018.17	
Edwards Brothers—printing .....	429.22	
Butterfield, Keeney & Amberg—opinion.....	150.00	
		10,197.10

BALANCE DUE ECONOMICS COMMITTEE—December 24, 1934.....		\$ 325.51
--	--	-----------

RECEIPTS AND DISBURSEMENTS—JOINT COMMITTEE ON  
PUBLIC HEALTH EDUCATION  
MICHIGAN STATE MEDICAL SOCIETY  
FISCAL YEAR ENDED DECEMBER 24, 1934

Balance Due Joint Committee—December 24, 1933.....		\$ 549.88
--	--	-----------

## Receipts

The Detroit News—for articles published.....	\$ 999.96	
Michigan State Medical Society—contribution.....	500.00	
		1,499.96
		\$2,049.84

## Disbursements

Salaries:		
Mabel Kelly .....	\$ 1,100.00	
Herman Riecker .....	825.00	
		\$1,925.00
Don E. Lyons .....		94.11
Miscellaneous .....		19.31
		2,038.42

BALANCE DUE JOINT COMMITTEE—December 24, 1934.....		\$ 11.42
--	--	----------

MEDICO-LEGAL DEFENSE FUND  
MICHIGAN STATE MEDICAL SOCIETY  
FISCAL YEAR ENDED DECEMBER 24, 1934

Balance—December 24, 1933 .....			\$11,808.03
<b>Income</b>			
Dues from members.....	\$ 3,390.28		
Interest received .....	555.34		
		\$3,945.62	
<b>Expenses</b>			
Douglas, Barbour, Dusenberg & Purdy—legal services.....	\$ 4,079.97		
William Stapleton, Jr.—salary.....	999.96		
National Law Printing Corporation—briefs.....	249.19		
Dr. Theron Longford—for legal defense.....	100.00		
Miscellaneous expenses .....	23.28		
		5,452.40	1,506.78
			<u>\$10,301.25</u>
Reduction in allowance to reduce bonds to approximate market value.....	\$ 875.00		
Less notes receivable for dues charged off.....	36.50		
			838.50
BALANCE—December 24, 1934 .....			<u>\$11,139.75</u>
Represented by:			
Bonds owned (at approximate market value).....	\$ 7,340.00		
Balance not set aside in general fund.....	3,799.75		
		<u>\$11,139.75</u>	

### THE JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION

Thirteen years ago the President of our Society, the late Dr. W. J. Kay of Lapeer, with Dr. J. B. Kennedy, chairman of the Committee on Education, and the Secretary, Dr. F. C. Warnshuis, met with the late President Burton of the University and Professor Henderson, to propose a program of health education designed to inform the people of the state on the advances in medical science, and what the medical profession was prepared to offer in disease prevention and cure. The thought of our officers was that information coming through the medium of an educational and neutral body with the prestige of the University of Michigan would probably be more readily accepted by the public than if it came directly from a group which might have personal interests. After numerous discussions the University consented to assume the direction of a campaign which contemplated programs of health lectures and demonstrations in the school systems of the state and to all adult groups that could be interested in the crusade for better and more wholesome living.

Limitation of space prevents the recital of this most effective and interesting experiment. Suffice at this time to say that at the height of the program approximately 600 physicians and dentists were lecturing before schools, parent-teacher organizations and other groups to a total of 220,000 a year in 1931. At this time, due to unfavorable economic conditions, many of our profession felt they could not incur the travel expense involved in keeping speaking engagements and the Extension Division of the University, on account of diminished income, had to withdraw a field man, whose salary the University had been paying, and whose job it was to arrange the school programs and otherwise direct the undertaking. Thus, these most valuable contacts which had grown from a few hundred in 1923 to almost a quarter million in 1931, have dropped to a negligible number during the depression.

During the years one group after another has allied itself with the Joint Committee until every responsible health agency in the state is now represented.

Seven years ago the *Detroit News*, dissatisfied with the professional attitude of the health column

it was then using, requested the Joint Committee to undertake for it a health column, believing that the various health interests engaged in the program of the Joint Committee on Public Health Education would reflect more accurately the professional attitude of the various groups and would be accepted as more authoritative by its readers.

After further consideration of the obligations involved, the Committee decided upon taking over this work and has conducted a daily health column, together with answers to some 5,000 questions a year on health matters since 1927. The column has reached from one to two million readers a year through the *Detroit News* and the other state papers which have utilized it, reaching the high mark of its circulation just before the financial crash of 1929 and its low point one year ago, since when the circulation has again been steadily upward. Until this year the column has been self supporting financially, but there will probably be a slight deficit this year, after which, if the circulation increases as the last few months have seemed to indicate, the column will again take care of itself financially.

Those of us who have followed the Health Column believe it to be a useful agent in educating the public to the sources and possibilities of the best medical service.

On January 8 the Joint Committee met. There were present representatives from practically all its affiliated members. After a very full discussion of the value of its methods and objectives, the Committee decided upon going forward with its program, until at least July 1, at which time there will be a meeting of the Committee to decide whether or not the various agencies concerned feel the contacts made are of sufficient interest to the public and of sufficient value to themselves to justify its continuance.

As stated in its announcement, "The function of the Joint Committee is to present to the public the fundamental facts of modern scientific medicine for the purpose of building up sound public opinion relative to the questions of public and private health. It is concerned in bringing the truth to the people, not in supporting or attacking any school, sect, or theory of medical practice. It will send out teachers, not advocates."

During the next six months, the program will be



renewed with all the vigor with which it was formerly prosecuted. This will be made possible through the loan of an experienced organizer and well-trained physician as a field worker by the University for half-time service, towards whose travel expenses—the expenses of necessary publications, postage, et cetera, the sum of \$1,000.00 was voted for use during this period.

The reason I am bringing this subject before you at this time is because of the possible danger of our losing one of the most worthwhile contacts with the public which our Society has made if the Joint Committee is not encouraged to continue. With the public thinking so seriously on medical problems, and lay groups assuming responsibility for direction in health matters in an unprecedented way, we will agree, I believe, that every possible effort should be employed to keep the public fully informed as to the objectives of organized medicine.

The Joint Committee has shown that it can make satisfactory contacts with the public as evidenced by audiences of 220,000 in one year. The potentialities of this agency already established impress me as being very great. We have several committees, and especially the Preventive Medicine Committee and the Cancer Committee, whose major activities lie in the field of lay education.

Both of the above committees have made requests for funds for this purpose. In many State Societies there is set up a Committee on Lay Education. Here in Michigan we have this unique organization with the machinery for operation and with long experience all in place for us. Instead of attempting to make new contacts and duplicating efforts, would it not be well for these committees to join with the Committee on Public Health Education for which this Society was originally responsible and with which it is now the most important affiliate? The identity of the committees need in no way be submerged through joining forces with the Joint Committee. Rather, indeed, they might well take over and help direct the fields in which their responsibilities lie in the larger organization. Through the machinery thus set up they will at once have an audience which might take years to develop. May I suggest that any allocation of funds be made with the view of centralizing our program in the Joint Committee of which the Secretary of the State Society acts as treasurer. If it is deemed necessary these funds may be earmarked for special educational programs.

### THE EDITOR'S REPORT

Probably there is no activity of the Michigan State Medical Society that is so open to inspection by its members as the JOURNAL. *Si quæris monumentum circumspice* is the epitaph of a famous architect. I might juggle this quotation in some such way as this: *Si quæris famam Journalis Michiganensi civitatis medici societatis, circumspice*. The twelve numbers of the 1934 JOURNAL are already in your hands. With the coöperation of the printer, it has been possible, I believe, to produce a medical magazine of great artistic merit. I might say the demand for space for contributed articles in the JOURNAL is as great as ever. This, of course, makes possible a selection of papers which the Editor hopes has met with the approval of the members of the Society.

As the years pass, the subject of economic medicine becomes more pressing. To deal editorially with subjects as they arise requires sometimes greater judgment than the Editor feels he possesses, and here is where the Publication Committee have ren-

dered able assistance. It has been my custom each fall to attend a convention of state Editors and I may say the trend of editorial discussion has been towards the economic and social phases of medicine. The state of Michigan is unique; it ranges from the most highly industrialized to the most agrarian. This condition of economic life reflects itself in those who serve the needs of the people as physicians. The medical problems vary with geographical areas. The Editor, however, has endeavored to represent the whole profession, avoiding undue emphasis on problems of such a nature that their adjustment is a matter of time.

As we emerge from the depression it is hoped that the scope of the JOURNAL may be enlarged in keeping with the demands of the society.

The coöperation of acting-secretary and Editor has been of the most cordial character and as a result there has been no duplicating of material.

All of which is respectfully submitted,

J. H. DEMPSTER.

### TREASURER'S REPORT

Members of the Council:

I have the honor to present to the members of the Michigan State Medical Society my report as Treasurer for the year 1934.

As required by the by-laws of the Society, the usual indemnity bond was filed with the State Secretary.

The following bonds are now in my holding:

#### General Fund

Am. Telephone and Telegraph Co.....	5%	\$2,000
Associated Gas and Electric Co.....	5%	2,000
Community Power & Light Co.....	5%	2,000
G. R. Affiliated Corp.....	5%	6,000
Herald Square Building.....	6%	2,000
Lower Broadway Properties, Inc.....	6%	2,000
National Electric Power Co.....	5%	5,000
New England Gas & Electric Co.....	5%	1,000
Pennsylvania Railroad Co.....	5%	3,000
Peoples Light & Power Corp.....	5½%	1,000
United Light & Power Corp.....	5½%	2,000

#### Medico Legal Defense Fund

Am. Telephone and Telegraph Co.....	5%	2,000
G. R. Affiliated Corp.....	5%	1,000
International Telephone & Tel. Co.....	5%	2,000
National Gas & Electric Co.....	5½%	2,400
New England Gas & Elec. Co.....	5%	1,000
N. Y. Central Railroad Co.....	4%	2,000
Peoples Light & Power Corp.....	5½%	1,000
Public Gas and Coke Co.....	5%	3,000

The following bonds were returned to me by Dr. F. C. Warnshuis on April 9, 1934:

Am. Telephone and Telegraph Co.....	5%	\$2,000
Int. Telephone & Telegraph Co.....	5%	2,000
Pennsylvania Railroad Co.....	5%	1,000

These bonds were used as collateral to a note for \$2,500 given on July 26, 1933, which was paid on February 26, 1934.

The National Electric Power Co. coupons were returned to me—the bonds being in default—no interest is available.

The Peoples Light and Power Co. paid half of the coupons due July 1, 1934, of \$25.00 each, or \$12.84—Total \$25.68.

In lieu of the Certificate of Deposit covering Michigan Fuel and Light Co. Bond I received \$3,000 Public Gas and Coke Co. 5% bonds, due in 1952.

I attach hereto your Auditor's rating.

Respectfully,

WILLIAM A. HYLAND, Treasurer.

## REPORT OF THE MEDICO-LEGAL COMMITTEE

The Secretary of the Medico-Legal Committee submits the annual report for the year 1934. The Secretary desires to thank the members of this committee for their coöperation. To the chairman of the committee, Dr. Angus McLean, is due a special word of thanks for his constant help and counsel.

Thanks are also due Mr. Herbert Barbour, our attorney, and Mr. Clayton of his office for their great help in carrying on the work of this committee. Mr. Barbour's report will be included as part of this committee's work. The intercourse between the Committee and Mr. Barbour's office has been most cordial. The thanks of the committee are also due to our former secretary, Dr. F. C. Warnshuis, and to our present acting-secretary, Dr. B. R. Corbus.

We also want to express our appreciation of the valuable service rendered us by Dr. W. C. Woodward of the Medico-Legal Committee of the A. M. A. in several special matters.

Thanks are also due Dr. Dempster for several articles in the JOURNAL on the evils of malpractice.

As in the previous year's reports, we again call the attention of the medical profession to the numerous malpractice cases. The cases listed do not include the many threats received by physicians which have not as yet reached the court stage. Some of these are just blackmail with no justification whatsoever.

We feel that every physician should be on his guard constantly so as to avoid any reason, real or alleged, for a malpractice suit. We suggest a reading of the cases listed in order that one can obtain some idea of the variety of alleged malpractice suits; everything from negligence to undue familiarity and worse is listed. It behooves every one of us, general practitioners and specialists, to be very careful how we act toward people who come to us for care. Especially true is this where the patient complains about treatment received from another physician. An unwise statement, the shrug of the shoulder or a skeptical tone may be the basis for a malpractice suit. Again, we stress the old fact that x-rays should be taken in all fracture cases before and after reduction and before discharge. If the patient refuses or can not pay for an x-ray, or gives some other excuse, *look out*. Courts now hold that the exercise of ordinary skill and care requires the use of x-ray films in diagnosis and treatment. They always seem to have the money for an x-ray to produce in court when they sue. Have the X-ray Laboratory furnish a written report and file with your notes.

It is also wise to pay particular attention to any cases taken care of for the Welfare, or in the various projects sponsored by the City, State or National Government. Be sure all records are in good condition. Do not be afraid to have consultants in your fracture cases or any unusual case, either medical or surgical.

The question of what constitutes a correct and sufficient examination has been fought out in the Courts. It arises quite often as to whether certain matters such as blood counts, taking of temperature and the method of examination are sufficient.

Again, we suggest that doctors acquaint themselves with their rights and liabilities under the law. We suggest the reading of one of the following books, which will be of great help when preparing to testify in court:

Medical Jurisprudence—Charles Scheffell, M.D.  
P. Blakiston's Sons, Pub.

Court and Doctors—Lloyd P. Stryker. MacMillan, Pub.

The Doctor in Court—Edward H. Williams, M.D.  
Williams & Wilkins, Pub.

Percival's Medical Ethics. Williams & Wilkins, Pub.

The malpractice suit is now classified as a form of "racket" to use the slang word of the day. No physician can afford to practice without protection of some kind. All doctors should belong to their State Society so as to form a strong front against malpractice. Verdicts are being given against physicians in all sorts of cases by juries. Some of these have been very large. Some suits are brought against doctors because it is thought that being insured there is a chance to make some money from the insurance companies.

The secretary has been in communication with Dr. W. C. Woodward of the American Medical Association, chairman of the Medico-Legal Department, in regard to forms for "Permission to Operate." This was the result of an inquiry from one of our members. We have incorporated the correspondence and forms in this report as we feel they are of much value to the surgeon.

The Committee would like to call the attention of physicians to the matter of delegation of duties to nurses and assistants. Be careful about permitting nurses to do any difficult work, to operate x-ray, diathermy or other apparatus. The use of wrong solutions in the bladder and eye, the burns from machines, broken needles and negligence in dressings is stressed. The doctor is liable because injury is a violation of duty on the part of the doctor, he is allowing an unlicensed person to practice medicine.

We can not go into all the matters we would like to in a report, but we do suggest the keeping of careful records, the getting of written permission to operate, to perform autopsies and where a patient will not follow a doctor's recommendation to get a written refusal.

In the matter of collection of fees: There are numerous cases where malpractice suits are threatened as an offset for fees. We suggest that in Michigan the physician wait until the Statute of Limitations is over; this is two years. Then in a suit for fees malpractice can not be used as a basis for a suit.

A word regarding the sterilization of the male: The best thought is not to do this operation where no medical reason exists. If the operation is done, explain the possible result and obtain and file away a full written consent signed by both husband and wife properly witnessed.

Your secretary has been acting on a Committee with Dr. W. C. Woodward, Director of the Bureau of Legal Medicine and Legislation of the American Medical Association, and Dr. Ludwig Hektoen in regard to "The Committee on Uniform Crime Records" as part of "An Act Creating a Bureau of Criminal Identification, Investigation and Statistics." We have also been working on the matter of the "Establishment of Medico-Legal Institutes." Your secretary attended the American Medical Association meetings of the Forensic Medicine Section, we also had personal discussion with Dr. Woodward on Medico-Legal matters.

Respectfully submitted,

WILLIAM J. STAPLETON, JR., Secretary.

## REPORT OF PUBLICATION COMMITTEE

At the last meeting of the Publication Committee of the JOURNAL, which was held in Pontiac last August, the present and future policies of the JOURNAL were discussed. During the months of June, July and August, we ran, as an experiment, the County Society news first, but at the expiration of



that period we concluded to return to our former order of contents; for the reason that it permitted contributed papers to be set in type and organized into pages earlier in the month, leaving the latter part of the JOURNAL for the reception of important news items of events occurring later in the month.

The Council and House of Delegates may ask why we go out of the state to have the JOURNAL printed. The reason is that we are able to save, we believe, from two to three hundred dollars a month in printing; and besides the financial saving to our Society, we believe the quality of the printing and the care with which it is done is immeasurably superior to any work that has been done on the JOURNAL since it was founded in 1902. The Company printing our JOURNAL specializes in medical publications.

The outlook for revenue through advertising sources seems more favorable than for several past years. You will notice several full pages of advertising, new ones recently added, for which we have a year's contract. The Acting-Secretary is negotiating with a young man in Detroit, whereby we hope to increase the number of advertisers of non-medical products, such as automobiles, clothing, etc. The JOURNAL has made less demand on the general budget of our Society than any other of the projects; inasmuch as its income has been so well maintained by its advertising.

We believe that the quality of the JOURNAL papers contributed is excellent, perhaps due to the number of meritorious papers from which our editor may make selection. We endeavor to have editorials reflect the general sentiment of the entire medical profession throughout the state, and we believe that the news items are a commendable feature of our publication. You will notice in the January number that there has been a change in the headings all through the JOURNAL from a thin letter to a small black-face letter. This was done to make the headings more prominent, and, we believe, more artistic.

Your Committee will appreciate and welcome any suggestions or constructive criticism you may have to offer.

The above report is respectfully submitted for your consideration by the Publication Committee of the JOURNAL.

(Signed) A. S. BRUNK  
H. H. CUMMINGS  
J. E. MCINTYRE

The Council accepted the Secretary's report and directed that respective sections be referred to the Finance Committee, the Committee on County Society and the Publication Committee.

**Editor's Report:** The Council on motion, properly seconded and unanimously carried, accepted the report of the Editor, and gave formal expression of appreciation to the Editor, the Publication Committee and the Secretary for the excellence of the JOURNAL as to literary merit, editorial copy, appearance and satisfactory financial condition.

The Report of the Medical-Legal Defense

Committee: The Council accepted the report of the Medical-Legal Defense Committee as presented by its Secretary, Dr. Wm. J. Stapleton, Jr. Feeling that the profession was not fully informed as to their legal rights and obligations, the Secretary of the Medical-Legal Defense Committee was requested to formulate a circular letter containing such information and the Secretary of the Society was directed to send this circular letter to the Secretary of each County Society for presentation to the members.

The Council accepted the report of the Radio Committee through the Secretary, Doctor Stapleton.

The Secretary reported that he had attended a meeting of the Scientific Section officers on the evening of January 16, with each Section represented. The program, as proposed, seems most satisfactory. The Section Officers are taking a great deal of interest and some of the out-of-town speakers have already accepted their invitations. The group went on record as objecting strongly to the interruption of Section Meetings, necessitated by the custom of having the installation of the President in the forenoon. They request that for this reason and in order to more properly honor the President, the Presidential Address be given at some evening meeting.

The group directed the Secretary to present to the Council the following recommendation:

"We recommend that there be established, as an appreciation for his outstanding services to the Society, the Andrew Biddle Lectureship, the lecture to be on a pertinent scientific subject by some outstanding investigator and to be given on the first evening of the General Session of the Annual Meeting following the address of the Retiring President, and that this speaker be selected by the President in consultation with the appointed representative of this Scientific Section Group."

"We recommend that special recognition be given this speaker, to take the form of an engraved brochure or in some other suitable manner indicate the Society's appreciation of the man and his work. It is our thought that the way might be left open to change the name of the Lectureship from time to time as and when the Society desired to honor some other member."

The report of the Secretary of the activities of the Section Group was accepted. Following a discussion which indicated a unanimous approval of the above recommendation, the matter was left to the Executive Committee to be put into effect.



## ANNUAL MEETING AND TIME OF MEETING

The Secretary presented an invitation from Genesee County, giving detailed information in regard to hotel accommodations and places of meeting, together with blue prints showing how the requirements would be met.

Doctor Perry presented the advantages of Sault Ste. Marie for the meeting.

The presentations were followed by a vote by ballot. The result of the ballot was Sault Ste. Marie 11, and Flint 5. On motion properly seconded and carried, the date for the meeting was set for September 23, 24 and 25.

A number of communications were presented by the Secretary which were referred to Committees.

The Council recessed at 1:20 p. m. to convene again at 2:45 p. m.

**SECOND SESSION OF THE COUNCIL**

The Council convened in second session in the Statler Hotel at 2:45 p. m., January 17, 1935.

Present—All Councilors who were present in the morning session and, as guests during the late afternoon, Doctors Rector, Yates, Brines and Slemons.

The Committee appointed for the purpose of securing a Secretary for the Society, Dr. R. R. Smith, Chairman, Drs. C. E. Boys, H. E. Luce and B. H. Van Leuven, announced that they were ready to report. Doctor Corbus retired from the room while the appointment of a Secretary was under consideration. He requested that since he was also Councilor, Doctor Smith, from his district, be vested with his proxy.

Doctor Smith read the six applications which were before his Committee and considered the qualifications of each man seriatim, presenting also such telegrams and letters as had been received by the Committee from units of the Society or members in reference to the matter. The Chairman reported that his Committee had gone into the subject thoroughly and had considered the various possibilities in connection with the matter. In doing this it endeavored to ascertain the feeling of the profession relative to the type of Secretary desired. It was the opinion of the Committee that the profession of the state, on the whole, preferred a physician Secretary who would de-

vote part time to the office. The Committee recommended that Doctor Corbus be continued as Secretary until after the Annual Meeting of the Society next September.

After carefully considering the matter of a successor to Doctor Corbus, it was the opinion of the majority of the Committee that, everything considered, their choice would be Dr. C. T. Ekelund of Pontiac.

Dr. H. A. Luce presented his minority report with the statement that he favored a full time lay secretary and sponsored in particular the application of Mr. W. J. Burns. Doctor Luce later withdrew his minority report explaining that he felt that there should be a physician secretary to whom the lay secretary should be responsible.

Then followed a lengthy discussion on the question of a lay secretary versus a physician secretary and a part time secretary versus a full time secretary, each Councilor speaking in turn on the matter. The matter finally came to a vote on motion of Doctor Boys, seconded by Doctor Cummings, that the Council employ a part time medical secretary for 1935. This motion was carried unanimously. It was then moved by Doctor Brunk, seconded by Doctor Boys, that Doctor Corbus be elected Secretary until after the Annual Meeting. This motion was carried unanimously.

Following this it was determined to have an unofficial ballot on the candidates. The first unofficial ballot being inconclusive, a second ballot was taken with Dr. C. T. Ekelund receiving the majority of votes.

It was moved by Doctor McIntyre, seconded by Doctor Baker, that the balloting be considered official and that Doctor Ekelund be elected as Secretary to serve from September 30 to the Mid-Winter Meeting of the Council. This was carried.

At this juncture, Dr. F. L. Rector, Field Secretary of the American Society for the Control of Cancer, present by invitation, was introduced and addressed the Council on the objectives of the American Society for the Control of Cancer and on the survey now being conducted in Michigan. The Council was also addressed by Dr. H. Wellington Yates, State Chairman for the American Society for the Control of Cancer, who was in turn followed by Dr. O. A. Brines, reporting for the Cancer Committee

of the State Society. Doctor Brines asked for an appropriation of one thousand dollars for laity education on cancer.

Dr. L. O. Geib of the Committee on Preventive Medicine, reported for his committee.

The Council now turned to the election of officers and Dr. J. H. Dempster was re-elected Editor, Dr. Wm. A. Hyland was re-elected Treasurer, and Dr. Wm. J. Stapleton, Jr., re-elected Secretary of the Medical Legal Defense Committee.

The report of the Committee on County Societies followed, Dr. C. E. Boys, Chairman.

#### REPORT OF COMMITTEE ON COUNTY SOCIETIES

1. The Committee endorsed the report of the Acting Secretary relative to Committees and recommended that no committee reports be released except through the Secretary's office and thought it should be emphasized that committees must not expend funds without authorization from the Council regardless of the source of such funds.

2. The Committee recommended that the annual meeting of the County Secretaries be held at a time and place to be determined by the Executive Committee and the Secretary.

3. In regard to the work of the Joint Committee on Public Health Education, the Committee recommended a continuation of its activities and that the Council go on record as willing to continue the Society's financial support to this cause.

4. Postgraduate Opportunities—The Committee endorsed the continuance of the Postgraduate activities, extending them as rapidly as seems feasible.

5. Communications—In reference to the correspondence from Wayne County Medical Society relating to transferring FERA cases from the Workmen's Compensation Law to the usual FERA rates, the Committee suggested that the Secretary request a meeting between the State Emergency Welfare Committee and our Advisory Committee, appointed for conference purposes, that this matter, together with certain collateral matters, may be considered.

6. Regarding a communication from Doctor Cassidy relating to the Afflicted Child Act, the Committee made no recommendation.

7. The Committee suggested that a communication from Doctor Cassidy in regard to the New York Dispensary Law be referred to the Legislative Committee for their consideration.

8. Regarding Doctor Garipey's communication which had reference to lectures on Ethics and Economics to be given to students, with a second step referring to Internes, the Committee suggests that the matter might well be left with the County Society's Committee for further study.

9. The Committee endorsed the Secretary's report on Administration.

Upon motion, the report of the Council's Committee on Society Activities was adopted as read.

#### REPORT OF THE FINANCE COMMITTEE

The Finance Committee's report was considered at length with much discussion. The

final vote for its adoption was delayed until the evening session so that certain alterations might be made in the original budget. At the evening session, upon motion by Doctor Carstens, seconded by Doctor Heavenrich, the report as given below was adopted:

(a) That the financial report of the Secretary, accompanied by the auditor's report, be accepted.

(b) That the following budget for the year 1935 be adopted.

#### Budget for 1935

Income	
3,350 Members @ \$8.50.....	\$28,475.00
Interest .....	1,200.00
	<b>\$29,675.00</b>
Appropriations	
Defense Fund (3,350) @ \$1.50.....	\$ 5,025.00
Journal Subscription (3,350) @ \$1.50.....	5,025.00
Rent .....	1,000.00
Annual Meeting .....	1,200.00
Post Graduate Activities.....	800.00
Committee Expense:	
Cancer .....	\$500.00
Preventive Medicine .....	400.00
Special Committees .....	250.00
Economics Committee .....	500.00
Joint Committee .....	500.00
	<b>2,150.00</b>
Legislative Committee .....	2,000.00
Council Expense .....	1,800.00
Postage .....	400.00
Ptg., Stationery and Supplies.....	400.00
Delegates to A. M. A.....	600.00
Stenographic .....	2,000.00
Committee Reserve .....	2,000.00
Contingent Fund .....	1,275.00
Secretary's Salary .....	4,000.00
	<b>\$29,675.00</b>

Journal Budget Income	
Advertising (Net).....	\$ 6,000.00
Subscriptions .....	5,025.00
Reprint Profit .....	150.00
Individual Subscriptions and Sales.....	150.00
	<b>\$11,325.00</b>
Expenses	
Printing .....	\$ 7,800.00
Editor's Salary .....	3,000.00
Postage .....	200.00
Reserve .....	325.00
	<b>\$11,325.00</b>

#### THIRD SESSION OF THE COUNCIL

The meeting was called to order at 8:15 p. m.

Present: Councilors as of afternoon session, Speaker Luce, President Smith, President-elect Penberthy, Ex-president Hirschman, Treasurer Hyland, Chairman of Legislative Committee Bradley, Doctor Garipey and Doctors Marshall and Bruce.

The chairman announced the personnel of the newly appointed Economics Committee—Dr. W. H. Marshall, Flint, Chairman; Dr. I. W. Greene, Owosso; Dr. F. A. Baker, Pontiac; Dr. R. H. Pino, Detroit; Dr. F. N. Smith, Grand Rapids.

He then called upon Doctor Marshall, who discussed the planned activities of his committee and forecasted the probable problems which would have to be met. As a part of his report he recommended a rapid survey



of the numerous patterns of medical relief in Michigan and a more intensive study of selected counties. With the results of the studies as a background, it is proposed that recommendations for the administration of relief be prepared and presented to those agencies—national, state or local—that may be charged with the administration of work or other relief.

On motion, properly seconded and carried, Doctor Marshall's report was accepted and the committee directed to proceed with the survey of medical relief in Michigan.

Dr. J. D. Bruce spoke on the plans for the year's joint Postgraduate work, and, as chairman of the Postgraduate Advisory Committee, reported for this committee.

#### REPORT OF LEGISLATIVE COMMITTEE

Doctor Bradley, chairman of the Legislative Committee, presented the report of his committee, giving an outline of the present activities and the proposed program.

President Smith opened the discussion which followed the reading of this report by saying that he desired certain further information. He stated that information had come to the members of the Executive Committee to the effect that there had been a solicitation of funds from individual doctors for the purpose of hiring a professional lobbyist. President Smith pointed out that the Executive Committee, while very appreciative of the splendid work of Doctor Bradley and his committee, have not been in entire sympathy with certain policies suggested by them, in particular a plan for the employment of a professional lobbyist. He stated that the action and feeling of the Executive Committee had been placed before the Legislative Committee by him in a personal interview. He stated that he desired now to know if the Legislative Committee had, without waiting for the Council's action, proceeded with the policy proposed by it. He did not mean at the moment to open a discussion of legislative policy. The Executive Committee has been fully conscious of the fact that there is a difference of opinion in the profession as well as among the councilors, in this regard. It has tried to ascertain the sentiment of the profession, and has had an expression in writing from each councilor. The point at issue is not, at the moment, a question of

legislative policy, but concerns the determination of society policy by committee, and the expenditure of funds without authority.

Doctor Bradley, in answering, stated that the Legislative Committee as such had not solicited funds, nor had they employed a lobbyist. However, that through financial aid furnished by members of Ingham County, and by a group of thirty doctors from different parts of the State in a meeting in Lansing, he thought that some arrangement had been made with a lobbyist, and he, as chairman, had placed at his disposal a Mr. Lambert for the purpose of helping him to further legislation. He understood that Mr. Lambert had been promised a contingent fee of six thousand dollars, but he did not know this to be a fact.

Doctors Garipey and Hyland, of the Legislative Committee, confirmed the statement that the Legislative Committee as a committee had taken no action relative to this matter, and both stated that they did not approve of this action.

A prolonged discussion as to legislative policies followed, and in conclusion the following motions were made, properly seconded and carried unanimously:

1. Motion by Doctor Heavenrich, seconded by Doctor Cummings,

That the Council adopts the definite policy that we do not employ a professional lobbyist. Carried.

(Doctor Cummings makes a definition of the professional lobbyist as one who is recognized as gaining a livelihood by attempting to promote or prevent legislation.)

2. Motion by Brunk, seconded by Corbus,

That the Legislative Committee be instructed that it is not to accept the services of a professional lobbyist.

3. Motion by Carstens, seconded by Urmston,

That the Executive Committee be directed to call a joint meeting of the Legislative Committee as promptly as possible in order that the Legislative Committee may receive from them the action of the Council in regard to Legislative policies and discuss with them further legislative activities. Carried.

4. Motion by Cook, seconded by Urmston,

That the secretary be instructed to promptly send a letter to each county secretary containing the substance of



the above motions, with the request that the county secretary read it at the next meeting of his society. Carried.

5. Motion by McIntyre, seconded by Boys, That the report of the Legislative Committee, as presented by Doctor Bradley, be accepted and referred to the Executive Committee for action. Carried.

6. Motion by Luce, seconded by McIntyre, That the Executive Committee be authorized to employ a lay Executive Secretary to work under the Medical Secretary, if and when the Executive Committee deems it expedient or advisable. Carried.

7. Motion by McIntyre, seconded by Heavenrich,

That the chairman appoint a committee of three to meet with Mr. Knudson in a matter of common interest. Carried.

Doctor Carstens presented the revised budget postponed from the afternoon meeting.

On motion by Doctor Carstens, seconded by Heavenrich, the motion to adopt was carried.

Adjournment at 11:50 p. m.

BURTON R. CORBUS, *Secretary*.

#### THE THERAPY OF THE COOK COUNTY HOSPITAL: THERAPY OF ECZEMA (DERMATITIS)

Bernard Fantus, Chicago, in his report on the therapy of eczema (dermatitis) as it is practiced at the Cook County Hospital, gives the cause as two-fold: an irritant (exciting cause) and a special irritability (predisposition) of the skin. Without the latter, one has to deal with simple acute dermatitis. Eczema is always a chronic disease, with, however, a tendency to acute exacerbations. The exciting causes may be chemical, mechanical, thermal, actinic, allergens and microorganisms. The predisposing causes may be found in the condition of the skin, digestive disturbance, nutritional disturbance, allergy, systemic disease, focal infection, circulatory impairment and disturbance of the nervous system. Local therapy requires the recognition of the acute, the subacute and the chronic stage. Several prescriptions are given for ointments and lotions. If causal systemic treatment is not required, and even when it is, restorative therapy (in the presence of anemia iron may be used or cod liver oil to improve nutrition) and alterative therapy may be employed. Alkalis (potassium citrate or acetate) enough to alkalinize the urine may be useful in acute stages. Arsenic, while contraindicated in the acute form, may be useful in chronic cases characterized by dryness and thickening of the skin. (*Journal A. M. A.*, Oct. 27, 1934.)

## WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, *President*, Kalamazoo.  
MRS. F. M. DOYLE, *Secretary*, Kalamazoo.

"What do we live for, if it is not to make life less difficult to others?"

The words of George Eliot can be applied to our duty to our Auxiliaries.

May we all resolve to work more earnestly and harder to secure new members, help on programs and give assistance to the work assigned by the Medical Society; to take active interest in medical legislation, increased distribution of *Hygeia* and many other activities.

The Woman's Auxiliary to the State Medical Society extends a cordial invitation to wives, mothers, daughters and widows of physicians and sisters of the members in good standing of your County Society.

If no Auxiliary exists in your county, get busy and ask for the endorsement of one from your County Society, as that must be secured before organizing.

Certainly the women who are eligible to membership will not hesitate to pledge allegiance to the medical profession.

Your Organization Chairman wishes to congratulate the Woman's Auxiliary to the Wayne County Medical Society on the splendid Year Book, which has just been issued.

Your committees show how thoroughly organized you are and the marvelous program for the year gives promise of most interesting subjects. Thank you for my copy!

Which will be the first county to organize in 1935? Let's go *over the top*.

Doctor: Please take your copy of the STATE JOURNAL home to your wife.

(MRS. GUY L.) JOSEPHINE KIEFER,  
*Chairman State Organization*.

#### Wayne County

The Public Relations Committee of the Wayne County Auxiliary issued the following letter on December 18, 1934:

Dear Madam:

Knowing that your organization stands for all that is progressive and helpful for humanity, we wish to give your membership the opportunity to share with us, the Woman's Auxiliary to the Wayne County

Medical Society, three lectures which will be free to the public.

The first will be on Friday, January 11, 1935, at two o'clock in the Grand Ballroom of the Book Cadillac on "Common Sense in the Health Program," by Thurman B. Rice, M.D., Indianapolis, Indiana.

The second will be on Friday, February 1, 1935, at two o'clock in the Crystal Ballroom, Book Cadillac, "The Nature, Curability and Prevention of Cancer," by Frank L. Rector, M.D., Chicago, Illinois, Field Representative of the American Society for the Control of Cancer.

The third will be on Friday, March 1, 1935, at two o'clock in the Crystal Ballroom of the Book Cadillac, "Food Fads," by Morris Fishbein, M.D., editor of the *Journal of the American Medical Association*.

Each of these speakers has popular appeal and is outstanding in his field. We would not be generous if we failed to share with you and your members the really great privilege of hearing these men.

All we ask is that you make known this invitation to your membership and urge a large attendance. You will find further details in the daily papers.

Very sincerely,

(MRS. EDW. G.) KATHARINE MINOR,  
(MRS. BASIL L.) ISABEL G. CONNELLY,  
*Chairmen, Public Relations Committee.*

On December 14, at 2:00 p. m., the Wayne County Auxiliary held its regular meeting at the Society headquarters. Miss Marguerite Dutton, Chief Investigator of the Medical Service Bureau of the Wayne County Medical Society, was guest speaker, her subject being, "The Public Be Served."

Drs. Clarence E. Umphrey, Chairman of Membership, Wayne County Medical Society, and David S. Brachman, Chairman of the Detroit Community Fund Committee, Wayne County Medical Society, spoke briefly. Dr. Umphrey's subject was "How the Doctor Can Serve Himself," and Dr. Brachman discussed the rôle of the Woman's Auxiliary in the Detroit Community Fund. Hostesses for the afternoon were Mesdames Ralph H. Bookmeyer, Leo P. Rennell, L. G. Jentgen, L. J. Foster, E. V. Mayer and Henry B. Steinbach. Presiding at the tea table were Mesdames Allan W. McDonald and Louis J. Morand.

A What-Not and Bake Sale (the first in a series of three to be sponsored by the Ways and Means Committee during the year) was conducted by Mesdames J. H. Chance and A. J. DeNike. Each member was requested to contribute.

The Women's Auxiliary to the Wayne County Medical Society seems to have been so busy during the past few months with its various activities that it has been dilatory about reporting those activities to the *JOURNAL* of the Michigan State Medical Society.

At the opening meeting of the auxiliary in October, Wm. J. Burns, LL.B., executive secretary to the Wayne County Medical Society, struck the keynote of the year's work when he outlined the tasks ahead of the medical profession. Mr. Burns feels this year to be a crucial one, particularly in the field of legislation, and urged the auxiliary to give all possible assistance to measures designed to safeguard the interests of our doctors. Mrs. Frank W. Hartman, the new president of the Auxiliary, assured Mr. Burns that the interests of the medical society were the interests of the auxiliary, as our organization exists chiefly to be of service to them. In order to be more efficiently of service to that society Mrs. Hartman urged a one hundred per cent coöperation between the doctors' wives of the

city. "This program not only necessitates an increase in membership," said Mrs. Hartman, but a willingness on the part of the present members to give generously of time and strength to carry out the year's work."

Mrs. G. Henry Mundt, of Chicago, who was the organizer and first president of the Chicago auxiliary, stressed the necessity of an intermediary between the medical profession and the general public. Mrs. Mundt feels that the auxiliaries to the medical societies should act as these intermediaries and carry to the lay women in clubs, churches and social gatherings accurate knowledge along medical lines.

With the serious work of the year outlined and well under way in charge of the program committee headed by Mrs. Wm. O. Merrill, the November meeting was devoted to the "Bring Your Husband Dinner," a delightful affair whose popularity was attested to by an attendance of nearly three hundred. Gaiety reigned—old friends exchanged greetings—new friendships were made—and the program so cleverly announced by Mr. Malcolm W. Bingay, Editor of the *Detroit Free Press*, was most enjoyable. In the absence of Dr. Merton S. Rice, Mrs. Rice gave the invocation. Mrs. Hartman welcomed the members and guests, and the president of the Wayne County Medical Society, Dr. Wm. J. Cassidy, brought greetings from that organization. Mrs. Thelma von Eisenhauer and her brilliant accompanist, Mrs. Edwin S. Sherrill, charmed the audience with their musical selections. Anne Campbell, *Detroit News* poet, said amusing things about "The Doctor," and Edgar A. Guest, *Detroit Free Press* poet, most beautifully toasted "The Doctor's Wife." The surprise of the evening came in response to the number, "Songs by the assembly, led by Mr. Harry A. McDonald." On all sides were heard voices whose owners most surely would have made grand opera had they not first drifted into the medical profession.

Professor Gus W. Dyer, dean of the school of economics at Vanderbilt University, gave an interesting and rather unusual talk on "The Big Show in Washington." Professor Dyer said that the depression was nature's surgical operation to save us from our own folly and stupidity; that in order to restore the patient to health, some scheme must be thought out to *develop* them—not to feed them. "The emblem of America is an eagle—not an oyster," Professor Dyer asserted.

The December meeting of the auxiliary was one of great practical value. Miss Marguerite Dutton, chief investigator, medical service bureau of the Wayne County Medical Society, spoke on "The Public Be Served"; Dr. C. E. Umphrey, chairman of the Membership Committee of the Wayne County Medical Society, told us "How the Doctor Can Serve Himself," and Dr. David S. Brachman, Chairman of the Detroit Community Fund committee of the Wayne County Medical Society, discussed "The Rôle of the Auxiliary in the Detroit Community Fund." Tea was served after this meeting and the finances of the society were augmented by a "What-not and Bake Sale."

Two of the most charming events of the year were put on during the holiday season under the sponsorship of the Wayne County Medical Society. The party arrangements were in charge of Mrs. Audrey O. Brown and members of the social committee. Miss Georgina Merrill put on a one act play, "The Fool," for the children's party on December 15 and each little guest brought a gift for some child less fortunate.

The second gala affair given the day after Christmas was a holiday dance, cabaret style, for the young people of the members and their friends.



Miss Olga Fricker acted as dancing hostess, assuring a happy time for every one in attendance.

The auxiliary is looking forward to a series of three meetings which have been arranged by the Public Relations Committee under the leadership of Mrs. Edward G. Minor. Lecturers for these meetings have been secured to speak on subjects pertaining to the maintenance of health in the home and the community. The public is being urged to attend all of these meetings, which are given free of charge.

Many new members are coming into the organization due to the splendid work of the membership committee under the leadership of Mrs. Claire L. Straith.

(MRS. FRED'K) FLOY T. MUNSON,  
*Press Chairman.*

### Saginaw County

Bright silver tinsel and colorful Christmas tree ornaments in an unusually lovely arrangement decorated the dinner table at the delightful party which members of the Auxiliary to the Saginaw County Medical Society enjoyed Thursday evening, December 20, at the Hudson Party House. Mrs. Dale E. Thomas was the speaker of the evening, telling of "Current Medical Topics." A short business session took place, followed by a social evening with Mrs. Robert Jaenichen and her committee in charge.

## OBITUARY

### Dr. H. Edward Knight

Dr. H. E. Knight of Detroit was killed January the twenty-seventh when his car ran into a bridge which was under repair on U. S. Highway twenty-three, two and a half miles south of Standish. Dr. Knight was driving north on a hunting trip. He was born in Detroit forty-two years ago; he was a graduate of Loyola University and had been in practice seventeen years. He was a member of the staffs at Providence and Harper Hospitals and had offices in the David Whitney Building. He was a member of the Wayne County Medical Society, Michigan State Medical Society and the American Medical Association. Dr. Knight was a member of the Blue Lodge (Masonic), the Consistory and Moslem Shrine. Surviving him are his mother, Mrs. Etta L. Knight, and a sister, Mrs. Viva LaVanway.

### Dr. Lewis E. Maire

Dr. Lewis E. Maire, who practised medicine in Detroit for fifty years, died at the age of seventy-nine years at his home, Grosse Pointe. Dr. Maire had been sick for nearly a year. He retired from practice four years ago. He was born in Philadelphia of French Huguenot ancestry. Dr. Maire attended and was graduated from the Detroit College of Medicine in 1881. He was at one time president of the Wayne County Medical Society and was the oldest member of the Detroit Academy of Medicine. He was one of the founders of the Detroit Ophthalmological Society. Dr. Maire will be remembered by the older members of the profession as a quiet dignified person, kindly in manner and devoted to his professional specialty. He leaves his wife, who was Florence M. T. Davis; four daughters, Mrs. William L. Donaldson, of Evanston, Illinois; Mrs. Lewis B. Wright, Mrs. Walter M. Parker and Mrs. Clyde L. Fulton, of Detroit; and five sons, Lewis E., Jr., former superintendent of Water Works Park, and Julian, Lincoln, Stephen and Dr. Edward Maire, all of Detroit.

## MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner  
LANSING, MICHIGAN

### A New District Health Department

With the establishment on January first of a new district health department in the Upper Peninsula, three counties were added to the list of 32 already having full-time county or district health department service. The new district department is made up of Luce, Schoolcraft and Mackinac Counties.

Organization of the new department was made possible by a recent grant from the United States Public Health Service supplemented with a grant from the Children's Fund of Michigan and the usual contribution from the state and the counties. Dr. A. R. Tucker, Dr. R. E. Spinks and Dr. J. F. Darby, health officers in the county seats of Luce, Schoolcraft, and Mackinac Counties, were particularly active in bringing about the formation of the department.

The addition of a sanitary engineer to the personnel of the health departments in Lake, Ottawa, Oceana, Newaygo, Kent, Isabella, Midland, Genesee and Oakland Counties was also made possible by a recent grant from the United States Public Health Service. The same appropriation provided for an additional public health nurse in each of the counties of Emmet, Ottawa, Genesee, Kent and Oakland.

### Talks to County Medical Societies

Announcement was recently sent to the secretaries of county medical societies by the state commissioner of health that physicians from the State Department of Health were available to speak before county societies on the use of the biologic products manufactured and distributed by the state.

Already invitations have been received from the following societies: Muskegon, Schoolcraft, Manistee, Alpena, St. Clair, Menominee, Mecosta, Monroe, Jackson, Gogebic, Hillsdale, Tri-County Medical Society, and Washtenaw. Other secretaries have replied that as soon as the new officers were able to organize their programs, the matter would be taken up.

It would be well for any society that has not already sent in its request for a speaker and wishes to have one, to send it without further delay, since schedules are now being made.

### Michigan Laboratories Licensed for Doing Serologic Tests for Syphilis

The Michigan Department of Health is required by statute to check the accuracy and dependability of laboratories doing the serum diagnosis of syphilis. The following laboratories have complied with the regulations and have been licensed to do the serologic tests for syphilis in the State of Michigan.

The Michigan Department of Health Laboratories make the tests free for those who cannot afford to pay for the service. These licensed laboratories will serve the physicians where the patient can pay the regular commercial fee for the test.



Reg. No.	Name of Laboratory	Location	Director
167	Allergic and Clinical	Grand Rapids	H. G. Swenson, M.D.
76	Brosius Laboratories	Detroit	W. L. Brosius, M.D.
13	Bay City Health Department	Bay City	L. B. Harrison
9	Battle Creek Sanatorium	Battle Creek	Paul Roth, M.D.
162	Buesser Laboratory	Detroit	F. G. Buesser, M.D.
40	Brotherhood Private	Grand Rapids	J. S. Brotherhood, M.D.
91	Bronson Methodist Hospital	Kalamazoo	H. R. Prentice, M.D.
46	Borgess Hospital	Kalamazoo	H. R. Prentice, M.D.
38	Blodgett Memorial Hospital	Grand Rapids	W. M. German, M.D.
37	Butterworth Hospital	Grand Rapids	W. M. Stevenson, M.D.
59	Central Laboratory	Saginaw	O. W. Lohr, M.D.
100	Clark Clinical	Detroit	H. L. Clark, M.D.
170	Clinical Laboratory	Benton Harbor	H. L. Galehouse
18	Children's Hospital	Detroit	M. K. Patterson, M.D.
108	Clinton Memorial Hospital	St. Johns	T. Y. Ho, M.D.
116	Cottage Hospital	Grosse Pte.	P. F. Morse, M.D.
140	Chas. Godwin Jennings Hospital	Detroit	S. W. Wallace, M.D.
164	Detroit Endowment and Clinical	Detroit	I. J. Zimmerman, M.D.
1	Detroit Department of Health	Detroit	J. A. Kasper, M.D.
141	Diagnostic Clinic	Monroe	C. J. Golinvaux, M.D.
17	Delray General Hospital	Detroit	H. E. Cope, M.D.
166	Dearborn Clinical	Dearborn	C. A. Christensen, M.D.
113	Evan. Deaconess Hospital	Detroit	A. B. Pranian
97	Eloise Hospital	Eloise	S. E. Gould, M.D.
156	Fairview Sanatorium	Detroit	R. I. Greenidge, M.D.
136	Florence Crittenton Hospital	Detroit	A. L. Amolsch, M.D.
21	Grace Hospital	Detroit	C. I. Owen, M.D.
44	Highland Park General Hospital	Highland Park	P. F. Morse, M.D.
168	Hart Clinic	St. Johns	T. Y. Ho, M.D.
176	Havers Laboratory	Detroit	H. Havers, M.D.
36	Hurley Hospital	Flint	G. R. Backus, M.D.
22	Henry Ford Hospital	Detroit	F. W. Hartman, M.D.
73	Harper Hospital	Detroit	P. F. Morse, M.D.
94	Hamtramck Department of Public Health	Hamtramck	P. A. Klebba, M.D.
146	Jackson Department of Health	Jackson	Doris Wilson
11	L. Y. Post Montgomery Hospital	Battle Creek	A. A. Humphrey, M.D.
163	Larkum Clinical Laboratories	Lansing	N. W. Larkum, Ph.D.
51	Macomb County Laboratory	Mt. Clemens	S. J. Peltier
142	Medical Clinical	Detroit	N. E. Aronstam, M.D.
54	Mercy Hospital	Muskegon	A. A. Spoor, M.D.
23	Meinke Laboratories	Detroit	H. A. Meinke, M.D.
0	Michigan Department of Health	Lansing	C. C. Young, D.P.H.
3	Michigan Department of Health	Houghton	Ora M. Mills
2	Michigan Department of Health	Grand Rapids	P. L. Kendrick, Sc.D.
104	Mercy Hospital	Monroe	R. W. McGeoch, M.D.
177	Michigan Bell Telephone Co.	Detroit	H. S. Brown, M.D.
14	Mercy Hospital	Bay City	W. G. Gamble, M.D.
111	Wm. H. Maybury Sanatorium	Northville	H. S. Willis, M.D.
24	National Path. Laboratories	Detroit	F. J. Eakins, M.D.
157	Nottingham Clinical	Detroit	Harriet B. Ainslie
158	Nottingham Clinical	Grosse Pte. Park	Harriet B. Ainslie
57	Oakland County Department of Health	Pontiac	V. K. Volk, M.D.
25	Owen Clinical	Detroit	R. G. Owen, M.D.
128	Pontiac State Hospital	Pontiac	E. A. Christian, M.D.
26	Physicians' Service	Detroit	M. S. Tarpinian
56	Pontiac Department of Health	Pontiac	C. A. Neafe, M.D.
120	Port Huron Hospital	Port Huron	Irene Dexter
118	Pawating Clinical	Niles	Alice Gracy, M.D.
88	Parkside Hospital	Detroit	R. I. Greenidge, M.D.
27	Providence Hospital	Detroit	J. E. Davis, M.D.
83	Roseville Department of Health	Roseville	F. T. Zieske, M.D.
28	Receiving Hospital	Detroit	O. A. Brines, M.D.
41	St. Mary's Clinical	Grand Rapids	G. L. Bond, M.D.
58	St. Clair County	Port Huron	Lucille Roach
5	St. Joseph Mercy Hospital	Ann Arbor	S. C. Howard, M.D.
32	St. Mary's Hospital	Detroit	J. E. Davis, M.D.
134	St. Luke's Hospital	Marquette	W. B. Lunn, M.D.
69	St. Lawrence Hospital	Lansing	L. C. Ludlum, M.D.
31	St. Joseph Mercy Hospital	Detroit	W. L. Brosius, M.D.
34	St. Francis Hospital	Escanaba	H. Defnet, M.D.
50	St. Joseph Hospital	Mt. Clemens	Isabella Kennedy
62	Traverse City State Hospital	Traverse City	R. P. Sheets, M.D.
6	University of Michigan Hospital	Ann Arbor	R. L. Kahn, Sc.D.
42	West. Michigan Clinical	Grand Rapids	T. L. Hills, Ph.D.
63	Wyandotte General Hospital	Wyandotte	C. M. Crum
117	Woman's Hospital	Detroit	M. A. Oginsky, M.D.
112	Women's Hospital	Flint	G. R. Backus, M.D.

## COMMUNICATIONS

### OUT IN CALIFORNIA

Here am I perched up on the twentieth floor of an office building overlooking the Bay and the Golden Gate. Just now eighty-seven of the Navy's boats are at anchor. The sun is bright, the weather warm, the fields green, no overcoat, anti-freeze nor galoshes. It is almost impossible to present a clear picture of California to those who are unfamiliar with local conditions and customs. It is a state of great distances. By the fast train it takes ten hours to travel from San Francisco to Los Angeles. To go by automobile requires about twelve hours. Travel is retarded by reason of the mountains and to reach certain regions one must go over circuitous routes.

There are some eleven thousand physicians in the state, of which number some five thousand seven hundred belong to the Medical Association. This rather low percentage of members is due to the large number of doctors retired from active practice, who come to California because of its climate. There are some twenty-three hundred members in Los Angeles and fourteen hundred members in San Francisco, Oakland, Berkeley and the Bay district. There are fifty-eight counties in the state forming thirty-nine county medical societies. There are nine councilor districts and six councilors at large, making a council of fifteen members, with an executive committee of seven members.

The Association office consists of six rooms, well equipped with a modern filing and record system. The clerical staff consists of four persons and one relief typist. With seventeen active standing committees and a voluminous correspondence, there are few idle moments in this office.

My arrival was on September 26. The chairman of the council met me on the arrival of the train at the Oakland Mole with a handful of cult literature on Initiative Nos. 9 and 17—a referendum that, if endorsed at the election November 7, would have granted unlimited, uncontrolled rights to cultists to practice medicine and surgery. That afternoon a conference was held and a program for the campaign was outlined which became my major activity in October. This campaign would require a whole article to impart its major features. Summarized, it reveals that a state-wide, county by county campaign organization was set up. Three and a half million pieces of informative literature were composed and distributed. One-quarter million post cards were provided doctors to send to their lay friends urging them to "vote 'no' on 9 and 17." The campaign was closed by a ten-day radio program at a cost of some five thousand dollars. Both measures were defeated by a state vote of three to one. Each county society raised and expended funds for county work. A rough estimate of fifty thousand dollars is made of the cost for imparting information to the public on these measures. Thus is demonstrated the profession's service for public welfare and protection, so characteristic of our concern for safeguarding human lives.

Considerable time has been devoted to visiting county societies and to date I have been to some fifteen counties. I have been tremendously impressed with the exceptionally high type of practitioners, the excellent hospitals and their contributions to scientific medicine. The five medical colleges have gained recognition and high places in the field of medical education.

The nation-wide discussion on providing medical care for lower income groups is particularly acute

and has been intensified by the deliberations of President Roosevelt's Committee on Economic Security. The California legislature, in 1933, appointed a Senate Interim Committee to study "Medical Care" and, if found necessary, to draft a bill providing medical care for this group. At hearings of this committee, the State Association has participated. Some of the hearings have been very tense by reason of the exaggerated statements of the socialistically inclined proponents who are undoubtedly pursuing the program of Eastern propagandists. The Council meets again January 19 and a special meeting of the House of Delegates is to be called in January to determine the Association's position.

The State legislature convenes January 7. A legislative provision dividing the session into two periods is very commendable. The first period lasts one month, when all bills must be introduced. Then there is a recess of one month, during which hearings on bills are held. The Legislature then reconvenes and acts on these bills. The session is limited to one hundred days. This policy concentrates all legislative representation in one month, which is a very desirable provision.

The State Association is in the midst of a state survey of medical services and health agencies—similar to but intended to be far more extensive and accurate than Michigan's Survey. Over six hundred workers are now in the field. Some fifty-five thousand dollars has been secured from the FERA and the Association has appropriated over twenty-eight thousand dollars of its funds to defray expenses. A committee composed of seven economists, members of faculties of state colleges, are advisors and their conclusions will add weight to the findings. It is expected that the report will be available in May.

Our annual meeting occurs on May 12 and 16 in Yosemite National Park. It was necessary to go to the Park to perfect arrangements. I wished Michigan men could see and be impressed by the scenery in this truly wonderful park. It beggars my description.

County Secretaries Conference, committee activities, program for the annual meeting, preparation for the visit of the British Medical Association in August, post-graduate programs, and routine office details, have left no idle time. It has been a truly busy three months. The pleasant surroundings, scenery and people have made it very happy and enjoyable.

San Francisco is a very interesting city, though its hills, steep streets and many autoists require time for one to become accustomed to driving. Its people are very friendly and hospitable, a delightful and inspiring group.

But enough. My greetings to all JOURNAL readers in whose welfare and progress I retain a fraternal, personal interest and concern, and to whom I extend my good wishes.

Sincerely,

F. C. WARNSHUIS.

### JOURNAL READING DOCTOR'S WIFE

Editor, Michigan State Medical Journal:

I was much interested in two items in the January number of the JOURNAL. One was "A request of the doctor in behalf of his wife," and the other was "Dear wives of doctors," by Mrs. Charlotte Andrews.

I not only read the Michigan State JOURNAL from cover to cover, including the advertisements, but



also the *Medical Times and Long Island Journal*, to which my husband subscribes, and several of the smaller medical magazines which come every month.

A country doctor's time for reading is very uncertain, being subject to calls at all hours. So when the magazines arrive, I read them, noting articles in which I know he will be interested, and often reading them aloud to him.

I peruse all the ads of new medicines and, where samples are available, I send for them so he may have an opportunity to try them. In many cases they have worked wonders, and some are now incorporated in his regular prescription work. If he did not have a journal reading wife, there are many splendid new remedies he would not hear of.

Perhaps my interest in this has grown because my husband likes me to go along on his calls, especially those that take him miles out in the country, and many are the night calls I have answered with him. I have assisted him in homes where there was no one else to do anything for him, and no funds to hire a nurse. I have given the anesthetic in confinement cases and tried to instill courage in the patient going down into the valley of pain, and I have helped in cases of minor surgery in homes.

So perhaps I have more of an excuse for reading the medical journals than many doctors' wives, besides having a natural liking for the practice of medicine.

At any rate my husband showed one doctor's appreciation of a journal reading wife of some little time ago. He was speaking of a case which another doctor had, and I remarked, "I wonder why he did not try such and such a remedy," referring to a new product. My husband said, "Well, perhaps he has not a journal reading wife."

I am glad to say I thoroughly enjoy the medical magazines.

MRS. W. CHARLTON EDMISON.

St. Ignace, Mich.  
Jan. 14, 1935.

#### RAGWEED DERMATITIS: REPORT BASED ON EIGHTEEN CASES

Louis A. Brunsting and C. Russell Anderson, Rochester, Minn., point out that occasional cases of a recurring, eczematous eruption have been reported during the ragweed season in the form of dermatitis venenata affecting chiefly the exposed surfaces of the body, due to an acquired sensitivity of the epidermal cells to the irritating oil of the plant as distinguished from the manifestations of allergic reaction to ragweed protein. It has been their experience to encounter rather frequently this form of dermatitis, related to season and environment, particularly among farmers and others whose residence, occupation or other contacts bring them extensively into rural districts in which ragweed is abundant. A growing interest in problems of sensitivity and a more generous application of the patch method of diagnosis enabled the authors, during the season of 1933, to identify and study eighteen cases of dermatitis due to ragweed; the cases form the basis of their report. They state that ragweed dermatitis is more common than is generally supposed. In cases of recurrent eruption in the summer, patch tests should include samples of the several ragweeds, as well as pyrethrum and turpentine. Further investigative work is necessary in experimental and clinical fields to determine the exact nature of the irritant, the factors concerned with the development of sensitivity and the mechanism of desensitization. (*Journal A. M. A.*, Oct. 27, 1934.)

## GENERAL NEWS AND ANNOUNCEMENTS

### Mental Hygiene

A meeting was held in Detroit January twenty-fourth to take the necessary steps towards the organization of a Michigan Society for Mental Hygiene. Dr. C. M. Hincks, director of the National Society of Mental Hygiene, was the principal speaker. He advised his hearers of the urgent necessity for such an organization. "Every mental hospital in the State," he said, "is overcrowded and has a waiting list, except the one at Newberry, and at Newberry there are 200 more patients than they have adequate facilities for." Among those who attended the meeting were: Fred Wardell, Mrs. W. D. Ryan, Maurice Aveland and Brodley T. Fowlkes, members of the Michigan Hospital Commission; Grover C. Dillman, State Welfare Director; Commissioner Heinrich A. Pickert and Miss Eleonore M. Hutzl, deputy police commissioner; Dr. Thomas K. Gruber, Superintendent of Eloise Hospital; Recorder's Judge John P. Scallen, Dr. Samuel A. Kirk, representing Dr. Robert H. Hanskell, superintendent of the Wayne County Training School; The Rev. Father E. J. Hickey, Fred A. Butzel, Sherman C. Kingsley of Philadelphia, director of the Philadelphia Welfare Federation; Dr. Albert M. Barrett, State psychiatrist; Dr. James Inch, superintendent of Ypsilanti State Hospital; Dr. H. B. Haynes of Lansing; William J. Norton, of the Children's Fund of Michigan; Edward H. Williams, County auditor, and Probate Judge D. J. Healy, Jr.

### Joint Committee Resurgit

The Joint Committee on Health Education met at the Michigan Union, Ann Arbor, on January 8, after about two years during which no meeting had been held. President Ruthven acted as chairman. Professor W. D. Henderson reviewed the history of the Committee of Health Education from its beginning in 1922. Each subsequent year a department had been added until it consisted of about a dozen units throughout the State. The health education consisted of lectures chiefly to schools and Parent-Teachers' Associations as well as the publication of a health column in the various newspapers in the state. During the past three or four years the committee had not functioned with its initial vigor; however, it was the consensus of the meeting that the time was ripe for a renewal of the old policy of the committee. A smaller committee was authorized, to be appointed by the president, to investigate the situation and to report the best methods of putting the facts of scientific medicine before the people of the State of Michigan.

### Medical School Administration Board

Dr. Albert C. Furstenberg has been appointed dean of the University of Michigan Medical School to succeed Dr. Frederick G. Novy, who retires as dean of the medical school to become dean emeritus. Dr. Clarence S. Yoakum has been appointed dean of the graduate school to succeed the late Dr. G. Carl Huber. Dr. James D. Bruce, vice president of the University, has been appointed chairman of the newly formed division of health science. The executive committee in charge of the Medical School is now composed of Dr. Furstenberg as chairman; Dr. James D. Bruce, director of the department of post-graduate medicine; Dr. Harley A. Haynes, director of the hospital; Dr. F. A. Collier, head of the department of surgery; Dr. Carl V. Weller, head of



the department of pathology; and Dr. Udo J. Wile, head of the department of dermatology.

\* \* \*

### Getting Along by Degrees

More than 62,000 persons have earned more than 71,000 degrees from the University of Michigan since the first graduating class in 1845, according to figures compiled by the university catalog office. Another 40,000 who attended the university, but did not receive degrees, bring the total of former Michigan students to 102,740. Records show that 71,088 degrees were conferred from 1845 to July 1, 1934, to 62,150 persons. Non-graduates in all schools and colleges through the academic year 1930-31 totaled 40,590. The known deceased include 11,258 graduates and 9,423 former students who did not receive degrees. There are 50,892 living graduates and 31,167 non-graduates.

\* \* \*

### Beaumont Foundation

The annual Beaumont Foundation lectures in connection with the Wayne County Medical Society, Detroit, will be delivered at the Art Institute on the evenings of February the eighteenth and nineteenth. Dr. Lewellys F. Barker of Johns Hopkins is the lecturer for the current year. The subjects are, "Heredity and Environment in Relation to the Handicapped" and "The Origin and Nature of Human Handicaps." As in other years, a cordial invitation is extended to every member of the Michigan State Medical Society to attend.

\* \* \*

Dr. Maurice Fishbein, editor of the *Journal of the American Medical Association*, addressed a lay audience of over 3,000 at the Temple Beth El, Detroit, January 8, on the subject of the Cost of Medical Care. The address reviewed the growth of medicine during the past forty-five years, contrasting what the patient gets as medical care today with medical care available in the nineties. In discussing the address, one speaker's suggestion that the employer pay his employees a just wage and let them take care of their obligations with the doctor brought forth great applause.

\* \* \*

Dr. Julius Powers has returned home after three months of post-graduate study at European centers, chiefly Vienna and Berlin. The January and February JOURNALS contain an intimate account of Dr. Powers' experience abroad. He reports a stormy voyage on the way home, in spite of which he was able to take his three meals a day in comfort.

\* \* \*

Dr. W. H. McCracken, Dean of the Wayne University Medical School, Detroit, has resumed his administrative duties after a period of illness in November and a cruise about the Caribbean Sea as a convalescent measure.

\* \* \*

"Great Oaks From Little Acorns Grow" and "Your Protection Against Quackery" were the topics given over the Michigan Radio Network by Doctors O. M. Randall and J. E. McIntyre respectively.

\* \* \*

Dr. W. E. Ward of Owosso, secretary-treasurer of the Shiawassee County Medical Society, is in Memorial Hospital at Owosso suffering from a fractured hip sustained by a fall December 11, 1934.

\* \* \*

As we go to press we learn that a special meeting of the House of Delegates of the A. M. A. has been called by the Speaker to be held in Chicago, 10:00 a. m., February 15.

\* \* \*

Dr. G. L. Wallbott has returned to his practice in Detroit after a visit to European clinics.

\* \* \*

Dr. Walter J. Cree of Detroit is spending part of the winter in New Orleans.

## THE DOCTOR'S LIBRARY

*Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.*

HANDEDNESS, RIGHT AND LEFT. By Ira S. Wile, M.S., M.D., 439 pp. Boston: Lothrop Lee & Shephard Co., 1934.

Normally, people tend to employ one hand, usually the right, in preference to the other. The reasons for so doing are complex, and the changing of deep-rooted preference for using one hand frequently results in many types of social maladjustment. Dr. Wile has patiently searched an extensive literature, and the results of his study are related in this book. Man of the Stone Age Period, like the lower primates, was apparently ambidexterous. About the Bronze Age, one hand, more often the right, became dominant, and it has remained so to the present. The work is concerned with an evaluation of those factors which lead a person to prefer one hand over the other. Such features as biological and hereditary factors, the importance of training and social and religious taboos are surveyed. Most people are well aware that one hand is more useful than the other, but commonly they do not realize the fundamental importance of such specialization, how it arose and how it was maintained. Despite occasional heavy reading, the reader who has considered his hands as merely hands will find many really startling ideas.

### WHY HE BECAME DERANGED

The newly-arrived patient at a mental hospital appeared exceptionally docile and quiet, so much so, that the head of the institution took him aside to ask him if he realized his position.

"My man, do you know where you are?"

"Yes, worse luck, I do; I am in your lunatic asylum for treatment."

"Tell me what happened to you?" asked the doctor.

"Tragic circumstances. I will explain; then perhaps you will understand.

"I married a widow with a grown-up daughter. Two months later my father married the daughter of my wife; consequently my wife became the mother-in-law of her father-in-law. My step-daughter became my step-mother, and my father, from then on, my son-in-law.

"A year later my step-mother had a son, who was my step-brother and the grandchild of my wife; therefore I was the grandfather of my step-brother.

"My wife now had a son who was, naturally, the brother of my father's wife, and, therefore, his brother-in-law. My step-daughter is, also, the grandmother of her brother because he is the son of her step-son, as I am the step-father of my father; my son is the step-brother of my father, at the same time the son of my grandmother, as my wife is the daughter-in-law of her daughter.

"I am the step-father of my step-mother, my father and his wife are my step-children; my father and my son are brothers and brothers-in-law. My wife is my grandmother, for she is the mother of my step-mother, and I am my own grandfather. And that," added the patient, "is what brought me here."

The doctor nodded understandingly, and was then taken in, for a few days' treatment, himself.—*The Tatler*.

# THE JOURNAL

## OF THE

### *Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOL. 34

MARCH, 1935

No. 3

#### THE PREOPERATIVE AND POSTOPERATIVE TREATMENT OF THE TOXIC THYROID PATIENT\*

ELLIOTT C. CUTLER, M.D.†

Moseley Professor of Surgery, Harvard University Medical School  
BOSTON, MASSACHUSETTS

Recalling, as I do, how little I knew about thyroid maladies when I left Boston and moved to Cleveland in 1924, and how much I learned from my eight years' residence in your Great Lakes goiter region, it seems presumptive of me to agree to the suggestion of your secretary that I discuss the matter of the preoperative and postoperative treatment of the patient with toxic goiter. All of you must have had an immense experience with goiter and, though the serious toxic varieties are not necessarily more frequent in goiter belts, the physiological variations and the opportunity to study this gland in many different conditions is before you daily. After all, the adolescent goiter, a simple physiological overactivity due to iodine-want, often brings with it mild toxic symptoms. In fact, I found, on my arrival in Cleveland in 1924, that a great many young girls were going to surgeons for thyroidectomy instead of taking iodine for their enlarged thyroid glands. That, however, was at a time when the use of iodine in its modern sense was just beginning and now I am sure such occurrences are very rare.

Presumptive as it may seem of me to take up a matter in which your experience must be greater than mine, it is a fact that my interest in this problem has increased with time. This may be due in part to the recent accessions of knowledge in the field of endocrinology which "willy-nilly" has forced all medical men to a more serious and deeper understanding of the functions and dysfunctions of all of the ductless glands. Shortly before I left Boston, Dr.

Sturgis, then a colleague in the Brigham Hospital, and I were greatly interested in the benefits which seemed to accompany the proper use of iodine in the preoperative treatment of the toxic thyroid state. The move to Cleveland presented me with a splendid opportunity to continue our studies and to appreciate more fully the great debt clinicians owe to Plummer for repopularizing the sensible use of iodine in this special field.

My topic deals with the preoperative and postoperative treatment of the patient with toxic thyroid, but reasonable treatment can be based only on a proper understanding of the underlying biological rôle of this gland and of how it is affected by outside conditions. Thus you will see that my remarks are largely concerned with the part played by the thyroid gland in determining the condition of the patient. After all, it is only by recognition of the degree of stimulation in which a patient happens to be before the surgical ordeal that the physician can determine what to do and what will be the consequences of the procedure.

\*From the Surgical Clinic of the Peter Bent Brigham Hospital, Boston. Read before the Michigan State Medical Society, Battle Creek, Michigan, September 13, 1934.

†For professional note, see JOURNAL M. S. M. S., December, 1934.



It has always seemed to me that an undue amount of importance has been attached to the particularly sympathetic treatment of these patients without due regard to the organic situation. We all know that in the treatment of any patient, kindness, gentleness, the avoidance of obnoxious stimuli, and happy surroundings do good. These factors, however, do not cure people and in my opinion they are of the same secondary importance in relation to a patient with a toxic thyroid. It is only by as complete an understanding of the pathological situation as possible that we can satisfactorily treat the condition.

The initial cause of the intoxication in the syndrome called Graves' disease or exophthalmic goiter is unknown, but it is certain that as a result of this factor overfunction of the thyroid gland is initiated and may, indeed, steadily increase until a fatality may result. If we do not know the initial instigator of the disorder, we certainly have plenty of evidence that the thyroid gland plays a major part in the continuance of the disastrous sequelæ. We have long learned that it is not the actual size of the thyroid gland that is so important as the fact that the cells are very active and that this activity is represented histologically by great proliferation of the tissue into a microscopic picture which we speak of as hyperplasia of the thyroid gland. This much has been known for a long time. It cannot be said absolutely that toxic symptoms never emanate from the gland in the so-called colloid or resting phase, though this would seem to be true. The reason we cannot say this is because an individual who is the seat of thyroid intoxication and has taken iodine in sufficient amount will have had a hyperplastic gland changed by the administration of iodine to an almost normal appearing gland with plenty of colloid in the acini. The patient in this condition, though his gland appears practically normal under the microscope, may still be in a somewhat toxic condition. The great importance of this whole matter is wrapped up in our knowledge of iodine in relation to thyroid activity. The relation of iodine to the thyroid gland was recognized long ago but since iodine is only of temporary benefit in such cases and since its prolonged or overuse may jeopardize the patient's condition, it fell into disrepute so long ago as the days of Theodore Kocher.

Its present use in relation to toxic conditions of the thyroid gland emanates from careful studies, such as those of Marine, relating to the effect of iodine on the thyroid gland under many conditions, both in man, fish and animals. Immediately following the re-introduction of iodine into clinical use, first as Lugol's solution, it was found that different effects were produced in different types of clinical cases. As a result of this, Plummer and a group of followers suggested that there were indeed two types of thyroid disease—one dysthyroidism in which a poisonous abnormal substance was being manufactured in the thyroid gland, and, second, hyperthyroidism in which the gland was putting out merely an excess of its normal secretion. The adenomatous glands were said to produce merely an excess secretion of the normal substance, *i.e.*, hyperthyroidism, whereas in exophthalmic goiter or Graves' disease there was supposedly an abnormal, incompletely iodized poison and the condition was called dysthyroidism. A great deal of experience has passed by us since these statements were made.

I remember the great hesitation with which Allen Graham of Cleveland and I, in 1926, wrote one of the early papers on the similarity of response to iodine of patients with Graves' disease and toxic adenomata. We pointed out that the only difference between these two toxic thyroid conditions was a quantitative one. This seemed best explained by the fact that the nodular part of the gland was inactive and that the intoxication came from the rim of hyperplastic thyroid tissue about the nodules. This rim of hyperplastic tissue, even in a large nodular goiter, might be smaller in amount than was present in an infinitely smaller gland in which there were no nodules. And it was only this hyperplastic tissue that called for iodine saturation. Moreover, it was clear to us from analogy alone that to presume that dysthyroidism existed was to run counter to all known physiological data. Even today with a much greater experience concerning the endocrine organs behind us we know of no conditions in which a gland secretes anything but its normal product. The secretion may be increased or decreased but it is never changed. We were greatly perturbed at that time because of the tendency of the clinician to rely upon histological studies whereas it had been made clear by



Marine, previously, that the histological picture depended solely on the amount of iodine available to the patient. When iodine is given to patients with hyperplastic glands the microscopic picture changes, involution takes place, the papillary and hyperplastic cells become smaller, colloid fills the acini and the gland assumes a normal histological picture, irrespective of the clinical condition of the patient. Obviously, the amount of iodine to be given is determined by the amount of hyperplastic tissue present plus that unknown but apparently little variable factor of individual iodine absorption. Thus, the pathologist cannot make a clinical diagnosis if iodine therapy has been properly exhibited, though it is true that the amount of lymphoid tissue present and the appearance of the interacinous tissue may give him some hint as to the condition existing prior to iodine therapy. The importance of this lies, however, in the clinicians recognizing that they are the ones to determine the diagnosis and not the pathologist. And this is a good lesson, since in our day there seems to be an increasing tendency for clinicians to rely upon certain ancillary branches of medicine rather than to shoulder full responsibility for diagnosis themselves. All laboratory activities, including the x-ray, have thus been elevated out of proportion to their value and our students show the effect of this attitude in their inability or unwillingness to make any diagnosis without all the laboratory tests at hand. To encourage this attitude further is dangerous, as it tends to rob clinicians of their independence of thought and action which has always brought such valuable gifts to the profession of medicine.

Once the clinical rôle of iodine was understood, the whole matter of goiter, both the toxic and the non-toxic forms, was greatly simplified and no other single factor in relation to the disorders of this gland approaches in importance the matter of whether or not any given patient has been given a sufficient amount of iodine. The matter of importance for us as clinicians to recognize is when to give iodine, how much to give, which stage of iodination the patient is in when first seen, and whether it is to be continued following surgery or not. Much has been written upon this topic, yet the full significance of iodine in thyroid conditions is still worthy of dis-

cussion. It may be said that any thyroid gland which is overactive needs iodine. By overactivity I mean a gland which is secreting in excess of its normal requirements. In such glands there is evidence of its activity by an increase in its blood supply. Such glands, as a rule, present thrill on palpation and a bruit when listened to with a stethoscope. They are usually, but not always, enlarged. The patient who is the seat of such overactivity manifests several definite types of disorder. These may be simply grouped as the circulatory manifestations or the neurological manifestations. The circulatory manifestations of the thyreotoxic patient are simply recognized as tachycardia first and, if this has progressed for a long period of time, the heart may be enlarged and may begin to show signs of failure. A further shift in the circulatory manifestations occurs with long-standing intoxication, whether it be a slow, steady, increased output of the glands over a long period of time, or whether it be from repeated bouts of brisk intoxication. This change is the tendency for such hearts to fibrillate and it has been demonstrated experimentally that thyroxin is more likely to produce fibrillation than adrenalin or other circulatory stimulants. It is this sort of protracted stimulation which results in that now easily recognizable syndrome, the thyreocardiac. The neurological manifestations of the patient with a toxic thyroid are wrapped up in the disturbances to the sympathetic nervous system—the sweating, the exophthalmos, the loss of the vascular control of simple capillary beds resulting in alternate blushing and blanching of the skin, the tendency to easy prostration, to greater motility of the bowels, to tremors of the extremities, and to an unstable psychology—are too well known to need elaboration at this time.

These two essential groups of clinical syndromes are supported, as a rule, by an increase in the basal metabolic rate which is recognized by a simple laboratory test. It may be of some interest at this time to point out that there is an increasing tendency to place less and less reliance upon this simple laboratory test, that is, the basal metabolic rate as determined by the ordinary method. The literature concerning this matter contains numerous articles written by competent observers, which reveal that patients may show many of the symptoms and signs

of thyroid intoxication and yet show little change in their basal metabolic rate. Certainly if we are to attack cases suffering from this disorder early or at safe periods during the course of the disease when there is a normal recession of the activity of the gland, we shall often find but little disturbance in the basal metabolic level. It is increasingly evident that there are probably several forms of thyroid intoxication and that the basal metabolic rate need not always share in the disturbance. The "formes frustes" of the disease are being increasingly recognized and thus greater safety given to our patients, for it is certainly wiser to operate upon such patients at an early period of the disease than when the disease is in the full-blown, intoxicated condition of exophthalmic goiter.

All of us probably see and have learned to recognize different forms of this disease. Your own cardiologist, Dr. Frank Wilson, has published papers telling of his ability to diagnose cases of Graves' disease from the circulatory manifestations long before the basal metabolic rate is elevated. Certainly many of us have seen patients with mild manifestations of circulatory disease long before there is a demonstrable increase in the basal metabolic rate. You may also see patients the seat of severe sympathetic disturbance without either the circulatory manifestations, except for a mild tachycardia, or any elevation of the basal metabolic rate. This is again a lesson in not putting too much reliance on special apparatus and laboratory methods. If we care only for patients with Graves' disease who have elevation of the basal metabolic rate, we should miss treating a great many people who could be relieved of their difficulties.

In a fairly extensive experience with total thyroidectomy, which has meant long periods of observation in every case before the surgical ordeal and months of study after surgery has been accomplished, we have come to place increasingly less reliance upon the basal metabolic rate determination as an accurate indication of what has happened. The symptoms of the patient at the bedside have been checked by other tests which have proven extremely valuable and accurate. The first accessory test upon which we have put reliance has been the determination of the cholesterol level in the circulating blood stream. This, as is well known, diminishes

with overactivity of the thyroid gland and is clearly increased in myxedema. We have repeatedly seen patients, obviously entering myxedema, whose basal metabolic rate was within practically normal limits, but whose cholesterol level revealed the accuracy of one's clinical judgment that the patient was in myxedema. We feel it is essential to enter this distrust of the basal metabolic level, particularly if based on a single observation, because it alone can never give the final verdict in making the diagnosis. The fact that the new drug, dinitrophenol, can elevate the basal metabolic rate without disturbing the circulation is an evidence that these two factors may emanate from separate conditions in the thyroid gland and need not always be taken alone as accurate indication of the total state of thyroid activity.

But having now recognized these patients as suffering from toxic goiter, we must prepare them for the surgical ordeal, for it is certain that, at the present time, reduction in the amount of available thyroid tissue is the surest way to alleviate the condition. It is true that there is a hint in the experimental work already published by Thompson and Collip that a factor has been found in the anterior pituitary body which will actually reduce the basal metabolic rate and even, perhaps, cause atrophy of the thyroid gland, but the application of this work to clinical medicine is not yet here. As a whole, one may group the toxic thyroid patients into those patients who have the classical disease, exophthalmic goiter, and those patients who have lumpy glands and show toxic symptoms, commonly called toxic adenomata. The former group is generally easily recognized; it is generally the more seriously toxic of the two groups. It tends to run in well emphasized bouts of the disease which, if left alone, will show frequent spontaneous remissions and then go back again to a serious condition. When the gland is fairly large and lumpy without much elevation of the basal metabolic rate but associated with only certain of the milder neurological and circulatory manifestations, then the disease is often hidden until the patient suffering for months, or even years from intoxication, goes to a cardiologist with early signs of cardiac decompensation. It matters little what type of intoxication the doctors recognize. It should be clear



now that both are remediable by subtotal thyroidectomy and that before the patient is submitted to his operation he should be carefully prepared by being given iodine. Iodinization can be carried out by many methods. It is the quantity of iodine that is important and whether one gives it in the form of Lugol's solution or potassium iodide makes no difference. The amount given per day is also not of the greatest importance, for, though it is common to give as much as ten to fifteen drops of Lugol's solution three times a day, it has been shown by Thompson that as much as one drop three times a day will cause almost as abrupt a remission and produce also the same histological change. The important thing seems to be the amount of time over which the iodine is given. In several studies which we have carried out, one in 1926 and the other as late as 1934, on typical groups of Graves' disease and toxic adenoma, it appeared to take on the average almost twice as long to iodize satisfactorily patients with Graves' disease as to iodize satisfactorily patients with toxic adenoma. Roughly, it takes from ten to fifteen days for the toxic adenomatous cases and from twenty to twenty-five days for the patient with Graves' disease. By satisfactory iodination I mean the shortest period in which there can be brought about a maximum decrease in symptomatology and a change in the histological picture representing a return of the gland to the normal resting or colloid phase.

Regarding the question as to whether surgery is always necessary, I believe it is necessary if the patient is to receive full benefit from modern treatment. Dunhill, in a most careful study of three hundred consecutive patients with toxic goiter, found that in sixty-two of these patients symptoms had been present over ten years, in one hundred and twenty-five over four years, and in only twenty-four was there a history of less than four years of intoxication. The result of all this, of course, was a serious reduction in the ability of the patient to lead an active life. In the cases in which the intoxication had existed over a long period of time there was considerable damage to the circulation, a great percentage showing auricular fibrillation. It is true that we now know that the damage to the intrinsic nervous apparatus of the heart in cases of thyroid intoxication is not permanent and that when,

even late in the disease, subtotal thyroidectomy is carried out an almost miraculous restoration to a normal life may be had. At the same time, such patients do not afford a happy risk and have in the meantime put in years of anxiety and inactivity. Further, patients in this group often have achieved a most disturbing amount of exophthalmos, a condition which when long-standing often cannot be restored to a comfortable or even safe state.

It would appear from the preceding description that thyroid intoxication and the availability of iodine are the most important matters to appreciate. It is often difficult to find out the state of iodination in which any given patient may be, but this is, however, the critical matter for the doctor to determine. In our experience it has been far safer, if patients have had a course of iodine therapy in which the maximum remission was brought out before seen by the physician, to withhold further iodine therapy and to wait for a new baseline to be restored before starting the therapy which is to precede immediately the operation. Iodinization produces a greater change in the patient toward safety than all of the other things that one can think of doing. It brings the gland back to a normal resting state. The circulation to the gland gradually diminishes, thrill and bruit disappear and the gland becomes firm to palpation. At the maximum state of change the gland is avascular and the surgeon need have no worries at the time of the operation. But, equally important to the ease with which the surgery may be accomplished, the symptoms of the patient decrease, the signs of irritability of the circulatory apparatus may almost disappear, and the signs of sympathetic irritation are wanting. Experience only can give to the surgeon the optimum day for carrying out his procedure. I have already indicated that in cases of toxic adenomata it may be anywhere from the tenth to the fourteenth day, and in cases of diffuse hyperplasia or Graves' disease it may take as long as four weeks of bed-rest and iodination. In a fairly extensive experience, I am perfectly certain of one thing and that is that it is better to carry out the surgical ordeal while the symptoms are disappearing and the basal metabolic rate is falling, irrespective of the height of the symptoms or the laboratory determinations of the basal metabolic rate, than to wait for



a period when the maximum recession has occurred and the disease again begun its upward thrust.

The remainder of my discussion is so simple that it hardly needs elaboration. I believe it is wise to carry out extensive subtotal removal of the gland at a single sitting. If the patient is carefully prepared beforehand and the optimum day for operation chosen, there will be no great anxiety in the operating room and a minimum of worry after the operation. One-tenth of the gland is plenty to leave. It may be said that we have now no criteria for determining in which case regrowth of tissue will be rapid and therefore a return of the toxic symptoms may occur. But all of us who have had recurrent cases probably have become more and more radical in our surgery. The recent large experience we have had with total thyroidectomy for heart disease, revealing the efficacy of thyroid feeding and the fact that it apparently restores all functions of the thyroid gland, and the fact that as small a dose as one-quarter grain of the extract daily is sufficient to prevent myxedema, leads us to be ever more and more radical in an attempt to avoid the recurrent case.

Which anesthetic to use was a matter causing great discussion not long ago. I do not consider it of maximum importance if the patient is properly prepared. For patients with heart disease, for patients with plunging goiters in whom I am afraid of injuring the recurrent laryngeal nerve, and for patients in whom very extensive removal is to be performed, I greatly prefer local anesthesia. In the ordinary case I am in the habit of using, provided there is no renal damage, avertin up to 90 mgm. per Kilo with a little gas-oxygen or ether if it seems wisest. But each surgeon must suit his anesthetic to his own technic. I see no special contraindications, because of the thyroid disease itself, to any particular anesthetic. In the operation there is nothing to be guarded against except removal of the parathyroid bodies or injury to the recurrent nerve. These are simple technical matters and need not delay us at this time.

Regarding the after-care of such patients, again I believe trouble ensues from improper preparation or from removing too little of the gland. In my opinion the thyroid storm is less frequent if there is but little thyroid tissue left in the patient.

Should the thyroid storm occur, I usually administer thyroid substance, not because I thoroughly understand this matter, for it has never been properly elucidated, but because, as a rule, in nature things occur slowly and the surgeon is always getting into trouble by bringing about abrupt changes. I doubt if iodine in the post-operative period is of much use and, in fact, if a very radical removal has been carried out, it only tends to stop regeneration of the gland, whereas one might desire some regeneration to take place. The ordinary surgical postoperative adjuvants should be carried out. Such patients need an unusually high intake of fluid. They are excitable and need more care and seclusion than the ordinary patient. But if the preparation of the patient with iodine has been carefully thought out, if the optimum day for operation has been chosen, I am confident there will be almost no postoperative difficulties.

Thus, we come back again to our original statement that only by a full and proper understanding of what is going on in the patient can we guard against later difficulties. The trials and tribulations of the surgeon begin so often at the operating table that he is apt to concentrate his energies upon that particular occasion, whereas his real source of trouble lies in improper and incomplete study of the situation before he begins his undertaking.

### Bibliography

1. Baumgartner, E. A., Wehb, C. W., and Schoonmaker, Huhert: Auricular fibrillation in goiter. *Arch. Int. Med.*, 33:500-512, 1924.
2. Cattell, R. B.: The pathology of exophthalmic goiter: a histological and chemical study of the changes following the administration of iodine (Lugol's solution). *Boston Med. & Surg. Jour.*, 192:989, 1925.
3. Coller, Frederick A., and Arn, Roy D.: Thyroidectomy for goiter without hyperthyroidism. Postoperative results in adenomatous goiters with normal and hypofunction. *Western Jour. Surg., Obst. & Gynec.*, July, 1931.
4. Crile, G. W.: Factors determining the end-results of thyroidectomy for hyperthyroidism. *Southern Med. Jour.*, 22:137-140, 1929.
5. Cutler, Elliott C., and Graham, Allen: Exophthalmic goiter and toxic adenoma: similarity of response to iodine. *Tr. Am. Surg. Assn.*, 44:330, 1926.
6. Cutler, Elliott C., and Levine, Samuel A.: Surgical methods for the relief of pain in angina pectoris, with especial reference to the value of total thyroidectomy. *Proc. Inter-State Post-Graduate Medical Assembly of North America*, Cleveland, Ohio, October, 1933.
7. Cutler, Elliott C., and Zollinger, Robert: Similarity of the toxic forms of thyroid disease. *Jour. Maine Med. Assn.*, 25:51-54, 1934.
8. De Quervain: Technic for goiter operations. *Deut. Zeitschr. f. Chir.*, Dec., 1915.
9. Dinsmore, Robert S.: The care of the handicapped goiter patient. *Surg., Gynec. & Obst.*, 42:177-179, 1926.
10. Dunhill, T. P.: The place of surgery in the treatment of toxic goiter. *Brit. Med. Jour.*, 1927.
11. Dunhill, T. P.: Toxic goiter. *Brit. Jour. Surg.*, 17:424-450, 1930.
12. Field H., and Bock, A. V.: The action of adrenalin chloride on the circulation rate in man. *Proc. Am. Soc. Clin. Investigation*, 1:1925.

13. Frazier, Charles H.: End-results from the surgical treatment of hyperthyroidism. *Jour. Am. Med. Assn.*, 90:657-659, 1928.
14. Halstead: *Ann. of Surg.*, 1907.
15. Halstead, William S.: The operative story of the goiter. *Johns Hopkins Hosp. Rep.*, Balt., 19:71-257, 1920.
16. Hamilton, Burton E.: Heart failure of the congestive type caused by hyperthyroidism. *Jour. Am. Med. Assn.*, 83:405-409, 1924.
17. Jackson, Arnold S.: Iodine hyperthyroidism; an analysis of fifty cases. *Boston Med. & Surg. Jour.*, 193: 1138-1140, 1925.
18. Jackson, Arnold S.: The prevention of persistent and recurrent hyperthyroidism. Based on a study of seven hundred sixty-nine cases of exophthalmic goiter. *Surg., Gynec. & Obst.*, 58:590-594, 1934.
19. Kessel, Leo, and Hyman, Harold Thomas: Exophthalmic goiter (Graves' syndrome) and involuntary nervous system. XI. Causes of death, with especial reference to pathogenesis and treatment by thyroxin of "acute crises." *Jour. Am. Med. Assn.*, 84:1720-1722, 1925.
20. Levine, Samuel A., Cutler, Elliott C., and Eppinger, Eugene C.: Thyroidectomy in the treatment of advanced congestive heart failure and angina pectoris. *New England Jour. Med.*, 209:667-679, 1933.
21. Levine, Samuel A., and Sturgis, Cyrus C.: Hyperthyroidism masked as heart disease. *Boston Med. & Surg. Jour.*, 1924.
22. Marine, D., and Lenhart, C. H.: Relation of iodine to the structure of human thyroids. *Arch. Internat. Med.*, 4:440, 1909.
23. Naffziger, H. C.: Progressive exophthalmos following thyroidectomy; its pathology and treatment. *Ann. Surg.*, 94:582-586, 1931.
24. Patel: Exophthalmic goiter operated upon by Jaboulay twenty-six years ago by bilateral section of the sympathetic nerve. *Lyon chir.*, 21:81, 1924.
25. Plummer, H. S., and Boothby, W. M.: The value of iodine in exophthalmic goiter. *Collected Papers of the Mayo Clinic*, 15:565, 1923.
26. Pool, Eugene H.: A technique for subtotal thyroidectomy in exophthalmic goiter. *Surg., Gynec. & Obst.*, 50:1001-1004, 1930.
27. Pool, E. H., Foster, N. B., Pardee, H. E. B., and McGowen, F. J.: Exophthalmic goiter; the diagnosis of thyrotoxicosis; the heart with thyroid disease; ante-operative therapy. *Surg. Clin. North America*, 5:1, 1925.
28. Reid, Mont R., and Andrus, William DeW.: Surgical treatment of goiter, with special reference to the operative technic. *Arch. Surg.*, 24:531-549, 1932.
29. Segall, Harold, and Means, James H.: Immediate effect of subtotal thyroidectomy in toxic goiter; daily basal metabolism and pulse observations. *Arch. Surg.*, 8:176-187, 1924.
30. Thompson, K. W., and Cushing, H.: Experimental pituitary basophilism. *Proc. Royal Soc.*, 115:1934.
31. Thompson, W. O., Thompson, P. K., and Cohen, A. C.: The range of effective iodine dosage in exophthalmic goiter; IV. The effect on basal metabolism of the daily administration of about 0.75 mg. of iodine. *Arch. Int. Med.*, 49:199, 1932.
32. Tinker, Martin D.: Notes on the advantages, disadvantages and methods in the many-staged operation for goiter. *Trans. Am. Surg. Assn.*, 41:106, 1923.

## EVERY PHYSICIAN A HEALTH TEACHER\*

WARD E. COLLINS, M.D.†

KALAMAZOO, MICHIGAN

Thirty-five years ago, according to Dr. Holt, there were not even six practitioners devoting their whole attention to Pediatrics. In no medical school was there a separate Pediatric department. There were no infant welfare stations and no public health nurses. Agitation was just beginning for the better production, distribution and supervision of the milk supply. Pasteurization had hardly been thought of. There is no denying that considerable progress has been made. To laboratory workers we are indebted largely for the advantages during the past few years. It is not necessary to dwell long on the details of this progress as you are all familiar with them.

We are more concerned now with the present situation and our ability to make plans for the future. There are research men and full time department heads and educators and they are carrying on most acceptably. There are, among us, clinicians possessing sufficient scientific knowledge to enter the home, the hospital and dispensary and take care of the sick. There are some who possess considerable knowledge of nutrition and can apply it intelligently in solving certain nutritional problems. However, our ideas concerning the subject may change without notice. Most of us are making quite an effort to put into practice our knowledge of preventive medicine especially as it ap-

plies to the prevention of infectious disease. But we feel helpless in the prevention and cure of the so-called upper respiratory infection and its many sequelæ. Its prevalence is nothing less than appalling.

We have recognized the value of the periodic physical examination and have tried, more or less successfully, to do this work, which becomes increasingly difficult as the child grows older. But here is a place where great persistence is justified because in this manner only will we be able to maintain close family contacts, thus placing ourselves in position to know about the cases of poor guidance, mental disturbance, school and behavior problems that exist. These parental contacts should prove of great value also, if we are to assume leadership in all child problems of the community. In the latter we have been woefully slow. Others have taken the initiative in many activities

\*Chairman's address read before the section on Pediatrics, Michigan State Medical Society at Battle Creek, September 12 and 13, 1934.

†Dr. Collins was graduated by the University of Michigan A.B., 1906; M.D., 1908.



in which pediatricists should have been the leaders. The medical profession has not been alert. It has been behind the public. Mothers have found that in matters of mental hygiene their physician or their pediatrician could not help them much. The physician's influence has not been felt in our schools as it should have been. Various nutritional and child management agencies have carried on without the physician's direction. It is the duty of every practitioner to manifest the deepest interest and the heartiest coöperation in all of these activities and agencies, to mingle with, study with, and work with the various individuals devoting their time and attention to child problems. In this way, only, will we learn of their problems and get their viewpoint of the various situations, and finally take over our share of the responsibility. In this connection, would it not be well to have a

look at ourselves. Are we prepared, as we should be, to teach scientific nutrition, child psychology and mental hygiene. Are our medical schools giving these matters the attention they deserve? And, by the way, are they teaching the Practice of Pediatrics as well as the Science of Pediatrics?

So we must go on with our education learning from one another and teaching the public to as great an extent as possible where it is most needed. Medical schools are worthy of our interest and coöperation. Then, after proper preparation, let the medical men enter into these various activities seriously and wholeheartedly. Get over to the lay public and the general profession the best which science has to offer. Build up a greater child consciousness among physicians. Make every physician a health teacher and every physician's office a health center.

### EXCESSIVE CIGARETTE SMOKING IN WOMEN AND ITS EFFECT UPON THEIR REPRODUCTIVE EFFICIENCY\*

ALEXANDER M. CAMPBELL, M.D.†

GRAND RAPIDS, MICHIGAN

Statistical inquiry indicates that over one hundred million cigarettes are consumed yearly in the United States and there is much evidence that women are contributing to these colossal figures in increasing numbers.

The author, after an experience of nearly forty years in obstetrical work, recalls that a quarter of a century ago it was extremely rare to encounter a pregnant woman who smoked even moderately. He has observed, however, a gradual increase in the incidence of smoking among women since that time and is positive that in the last decade the amount has greatly increased. With the likelihood of even greater excess in the future it seems reasonable to draw attention to the possibility that excessive absorption of nicotine, which is undoubtedly the most toxic substance in tobacco, may have a deleterious effect upon female fecundity.

In a fairly thorough review of the literature on this subject we find that very little research work has been done by way of animal experimentation on the effect of nicotine on the female sex organs, and that

the conclusions that have resulted from such work have been somewhat contradictory.

Sukema Ogata, in 1919, observed no apparent changes in the ovaries, either macroscopically or microscopically, after injecting rabbits with a tobacco filtrate which was made by adding one gram of a certain brand of cigar tobacco to fifty c.c. of a physiological salt solution, filtering it after twenty-four hours through a Berkfeld filter.

Dr. Gerd Unbehan, in his article in 1931, considered the effect of nicotine on the white mouse. Three to forty-five minutes after injecting these animals subcutaneously with 1-1000 of a grain of nicotine, heavy cramps and difficult breathing were noted, which lasted from five to ten minutes. This amount was given on alternate days and

\*Presented before the section on Obstetrics and Gynecology at the 114th annual meeting of the Michigan State Medical Society, held at Battle Creek, September 12 and 13, 1934.

†Dr. Campbell is a graduate of the Detroit Medical College, 1896; Consulting Surgeon, Gynecologist and Obstetrician, Blodgett Memorial Hospital. His membership includes—American Gynecological Society, American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Chicago Gynecological Society, Detroit Obstetrical and Gynecological Society, American College of Surgeons, American Medical Association and Kent County Medical Society.



repeated five times. Four mice did not die and their functions remained normal, while two died after four or five injections of nicotine. He stated that the smears during estrus showed that the vaginal changes depend upon ovarian functions, and concluded that in white mice, with hardly any exception, nicotine has an influence upon ovarian function and that the production of the hormone which produces the estrus ceases. Hofstaedter, quoted by Unbehan, in experimenting with white mice during nicotine treatment, found that they frequently ended in abortion and that the offspring were usually weak and died easily. It was also observed that sexual desires were impaired after nicotine poisoning. Unbehan's conclusions were:

1. Nicotine causes cessation of the estrus.
2. It produces degenerative processes in the ripening follicles.
3. It increases follicular atresia.
4. It increases connective tissue.

Nakasawa, of Japan, in 1933, published a valuable article in which he considered the influence of chronic nicotine poisoning on the sexual organs of female rats. After injecting a watery solution of nicotine tartrate into these animals he observed that the sexual cycle was changed, sometimes delayed, and sometimes absent. He observed atrophy of the ovaries, uterus, and vagina. He noticed that microscopically the ovary was poor in corpora lutea, which were mostly old and degenerated. The protoplasm of the luteal cells was scarce and showed vacuoles and fat. The nuclei were indefinite and the connective tissue was increased. He further observed that if the nicotine was continued there was no pregnancy because the menstrual cycle did not occur. He also injected a group of rats during pregnancy, the pregnancies continued, but the offspring were weak and died easily. This author further observed that the milk glands were poorly developed, both microscopically and macroscopically. Nakasawa states that Hofstaedter found that, by injecting dogs, guinea pigs, and rats repeatedly, the sexual function was lessened, the fetuses were weakened and that these injections inhibited follicle development. M. Magolobeli, in discussing the effect of nicotine on the sex organs of women who work in tobacco factories, is of the opinion that it affects the gonads. He states that these

women have fewer pregnancies, more spontaneous abortions, that there are more deaths from 1 to 3 years of age, and that these conditions are due to the direct and indirect effect of nicotine on the sex organs.

In a contribution by Kieffer, he concludes that nicotine affects the digestive organs unfavorably, partly from local irritation, and partly through trophic and motility disturbances of nervous origin, and partly through changes in the digestive juices. He states that women with hyperthyroidism or hypothyroidism are more sensitive to nicotine, and that women who smoke have much lessened secondary sex characteristics. They suffer from disturbances of menstruation, menorrhagia and amenorrhea. He thinks that tobacco causes sleeplessness, migraine, psychic disturbances, and tremor. He states that women in general are more sensitive to nicotine as they have a more mobile vegetative balance. Kieffer quotes Hofstaedter as claiming that women should not smoke during puberty, during menstruation, or during the climacteric, and it should be forbidden immediately after childbirth. Kieffer thinks that mothers should be told of the damage to which infants are subjected when they breathe tobacco-laden air.

In 1927 Hatcher and Crosby demonstrated the presence of nicotine in the milk of nursing mothers who had been smoking twenty-five cigarettes a day. The elimination of nicotine by lactating breasts was confirmed by William B. Thompson, of Los Angeles. Wilhelm, of Dusseldorf, in an article on the "Appearance of Nicotine in Women's Milk after Indulgence in Cigarette Smoking," experimented with ten nursing mothers. The milk was examined one hour before smoking, two or three hours after smoking, four or five hours after smoking, and seven or eight hours after smoking. After cigarette smoking a very small amount of nicotine showed in the milk. The greatest amount was found in nursing mothers who inhaled. Wilhelm, quoting Sokolov, stated that lactation is affected profoundly by smoking. Wilhelm's summary is as follows:

1. The smoking of five or six cigarettes causes no trouble to the child, but unlimited smoking should be forbidden.
2. Over fifteen cigarettes produced a toxic effect on the child.
3. After seven or more cigarettes there is an indication of nicotine found in the

milk and its time of appearance is from four to five hours after smoking.

4. Children may have transient trouble with the stools that can positively be laid to nicotine.

5. Nicotine does not prove to have an unfavorable effect on lactation.

6. Fifteen to twenty cigarettes can affect nursing babies unfavorably.

At the author's suggestion Dr. William German, pathologist, Blodgett Memorial Hospital, Grand Rapids, Michigan, has recently done some experimental administration of nicotine to rabbits and his report is as follows: "One rabbit received over a period of several weeks 15 intravenous injections of an extract made from one cigarette. Following every intravenous inoculation of 1 c.c. of this extract made in physiological saline solution, each inoculation being the equivalent of one-fifteenth of one cigarette, the rabbit repeatedly developed clonic convulsions, becoming tonic in type, from which the rabbits quickly recovered. In all cases, the fifteen inoculations were given over a period of several weeks.

"Autopsy performed on these rabbits showed no gross or microscopical lesions in any of viscera, including the ovaries. Sections of liver tissues showed mild fatty degeneration, but the changes are so mild that it cannot be with certainty ascribed to the effect of the nicotine. No apparent tolerance was developed by the continued use of the drug, since convulsions were produced on every occasion to the same degree.

"General conclusions: Administration of nicotine either by extract of cigarette or by administration of the pure drug by intravenous injection over a short period of time produces no demonstrable changes in any of the viscera. It is possible that this treatment carried on over a period of months might produce demonstrable changes."

Maddock and Collier concluded from their study of the effect of cigarette smoking on young adults that smoking has an unfavorable influence on the progress of thromboangiitis obliterans and they advise against tobacco smoking in patients suffering from that ailment. They demonstrated a consistent increase in the blood pressure and skin temperature of the fingers and toes and they believe that a vasoconstriction of the skin vessels occurs over the entire body.

May this same vasoconstriction not occur

in the vessels of the parenchymatous tissue?

Wright and Moffat, who have verified the work of Maddock and Collier, believe that the carbon monoxide and the products of cigarette paper may be eliminated as offending mediums. Bogen, in an analysis of the "main stream" and the "side stream" of a cigarette smoke, observed that in addition to *nicotine*, carbon monoxide, carbon dioxide, ammonium, aldehyde, and furfural are present. But it seems to be the consensus of opinion that nicotine is the only one of the above products that is toxic and at least no experimental work up to the present time has disproved this.

Bogen states that under ordinary conditions many competent observers have failed to note any deleterious effects whatever from the use of cigarettes. Certain conditions, however, have been so frequently associated with the practice of smoking that the connection seems indisputable. He refers to such conditions as cardiac arrhythmia, shortness of breath, thromboangiitis obliterans, nicotine amblyopia, and chronic inflammations of the upper respiratory passages. His extensive review of the literature has been summarized as follows: "A sound individual may bear what is for him moderate doses without injury, but even these are often noxious to the unsound or to other sound individuals. But the immoderate use of tobacco brings on a series of disturbances which are at first functional, then organic, and of which some are not without gravity."

In order to obtain a cross section of authoritative opinion on the subject under consideration we submitted a questionnaire to over 150 leading obstetricians and gynecologist in the United States and Canada. To date we have received over 100 replies and a critical analysis of the answers and comments has been most interesting even if inconclusive. A report of their clinical observations presents the following percentage statistics:

1. In answer to questions, "In your opinion does moderate smoking of cigarettes in any way impair the Reproductive Efficiency of Women?" the replies were as follows:

Yes 1 per cent.

No 99 per cent.

2. In answer to question, "In your opinion does moderate smoking of cigarettes



in any way impair the Reproductive Efficiency of Women?" the replies were as follows:

Yes 3 per cent.

No 97 per cent.

3. In answer to question, "In your opinion does excessive smoking of cigarettes in any way impair the Reproductive Efficiency of Women?" the replies were as follows:

Yes 40 per cent.

No 25 per cent.

No opinion 17 per cent.

Do not know 10 per cent.

Doubtful 8 per cent.

4. In answer to question, "What percentage of your obstetrical cases smoke?" the percentages varied from 10 to 100 per cent, with an average of 48 per cent.

A very careful personal inquiry among our private obstetrical cases revealed that 36 per cent of them smoked from a minimum to a maximum number of cigarettes a day. Our figures correspond very closely with those of Thompson, of Los Angeles, who reported that 38 per cent of his patients smoked from an occasional to twenty-five cigarettes daily.

Some of the comments that were made in answer to our questionnaire were of interest and are as follows:

Potter, of Buffalo, states: "Being a non-smoker, myself, I have looked for bad results in patients who use tobacco, both as to milk supply and poorly developed children, but after a long period of observation I failed to find the bad effects I looked for so I am inclined to believe that tobacco is not harmful. My impression is that women do not use it as much as they appear to because they smoke only a part of the cigarette and throw it away before finishing."

Greenhill, of Chicago, believes that excessive smoking occasionally brings on premature labor and believes that excessive smokers do not appear to be as efficient nursing mothers as nonsmokers or moderate smokers.

Quigley, of Rochester, New York, thinks that excessive smoking impairs the reproductive efficiency of the highly neurotic woman.

Norris, of Philadelphia, limits healthy, pregnant women to from five to ten cigarettes a day, and when complications occur he either cuts them off entirely or treats each case individually.

Rongy, of New York, believes that excessive smokers rarely suffer from lack of fertility and that among the most fertile women one observes excessive smoking.

Coventry, of Duluth, says that excessive cigarette smoking decreases sexual desire in women.

Matthews, of Brooklyn, believes that the nervous type and the hyperthyroid cases have their reproductive efficiency impaired by excessive smoking.

Holden, of New York, believes that excessive smoking is harmless unless there is another factor present, such as a low basal metabolism rate.

Taussig, of St. Louis, states that harmful effect of cigarette smoking is highly conjectural, but he is of the impression that the asthenic, with moderate anemia, is probably unfavorably affected by moderate or excessive smoking.

Meeker, of Boston, states that, theoretically, he supposes great excess might cause a toxic depression of oögenesis; practically, however, he believes that such a happening is unlikely and rare.

DeLee, of Chicago, states that he does not know whether or not excessive smoking impairs the reproductive efficiency but that he always prevents it in his practice.

Findlay, of Omaha, is of the opinion that excessive smoking causes nervous disorders that cannot fail to influence adversely the parturient woman.

C. Jeff Miller, of New Orleans, states that when he was doing obstetrical work he found extreme nervousness and occasional miscarriage which he believed was due to the condition of the patient brought on by excessive smoking.

Kosmak, of New York, believes that it is impossible to state frankly as to whether excessive smoking of cigarettes impairs the reproductive efficiency of women. He does not believe that it does but states that it may give rise to other disturbances that must be considered in estimating the character of labor and nursing ability. He believes that excessive cigarette smoking during pregnancy induces certain digestive, respiratory, and nervous disturbances, and has observed that it interferes with the proper administration of the anesthetic.

Caldwell, of New York, states that excessive smoking is usually found among the highly neurotic and nervous individuals. He further states that he has questioned a large



number of women in their sterility clinic and in his office and that whenever there was excessive smoking he found some other cause for their sterility.

Pendleton, of Kansas City, Mo., has observed a few cases of sterility in which pregnancy occurred when the patient quit smoking. He advises against smoking in all sterility cases.

Royston, of St. Louis, states that he has had three women whose sterility disappeared after the cessation of smoking.

Lynch, of the University of California, states that smoking affects women in different ways: that one class does not seem to be upset, even with thirty or forty cigarettes a day; another class gets nervous, "jittery," and coughs a great deal on from fifteen to twenty cigarettes a day. He stops his patients smoking when they are nursing a baby.

Tew, Western University, London, Canada, quotes Professor MacCallum as saying that smoking during pregnancy undoubtedly has a detrimental effect upon the unborn baby by passing through the placenta and into the fetal circulation. Tew advises all expectant mothers to limit their cigarettes to three or four a day.

Frazer, of Montreal, states that he believes that excessive smoking is very bad for pregnant women and especially toward the end when they are preparing for lactation.

Hannah, of New York, is of the opinion that excessive smoking reduces physical health and subjects the patient to infection and poor health, also predisposes to mental disturbance of the mother who believes that nicotine may affect the baby and also inhibit lactation.

Rucker, Richmond, Va., advises patients to stop smoking during pregnancy and insists that they stop when they nurse their babies.

Miller, of the University of Michigan, believes that excessive smoking of cigarettes impairs the reproduction and efficiency of women and would similarly reduce their fertility.

Goodman, of Columbus, does not limit his patients and allows them to smoke in bed, except when nursing the baby. He states that some of his most fertile women are excessive smokers.

Kane, of Washington, D. C., states that

for several years he has attempted to connect the disorders of reproductive functions, and especially lactation, with excessive smoking, and has never been able to prove that smoking is harmful. He tries to limit his patients to not more than six cigarettes a day.

Cornell, of Chicago, feels that a pregnant woman should not do anything that would harm her offspring and that she should be willing to coöperate in every way. He asks his patients to discontinue smoking and drinking alcoholics during pregnancy and the nursing periods. He states that in countries where women have been smoking for many years, such as Turkey and Persia, there are no men or women of outstanding ability as artists, musicians, statesmen, and so forth.

These comments illustrate the lack of unanimity of opinion that exists in the profession concerning this subject.

To conceive, to carry her child to full term, to give birth to it without injury, and to have it develop into a normal and efficient adult, constitutes the highest function and privilege of a woman. Unfortunately this consummation is rarely attained because of both exogenous and endogenous influences which, to some extent, are beyond control at the present stage of our civilization. It would be ideal if more women could have their habits controlled from childhood with the view of anticipating the importance of efficient childbearing and if conditions could obtain whereby no deleterious influence would impair the perfect functioning of her whole organism during the demands of pregnancy, the strain of parturition, the dangers of the puerperium, and during the important period of lactation.

If the author is correct in his belief that the female is adversely influenced by the excessive use of cigarettes, it would be equally logical to assume that the same habit in the male might be attended by a diminution in his fertility.

There is need for further study on this controversial subject and it offers a fertile field for clinical and laboratory investigation.

### Conclusions

1. Excessive cigarette smoking is definitely on the increase among American women. The author's survey indicates that approxi-

mately 50 per cent of expectant mothers in the United States and Canada smoke cigarettes.

2. Animal experimentation upon rats and white mice has definitely demonstrated that chronic nicotine poisoning produces pathological changes in their sex organs, adversely influences oögenesis, and results in unhealthy offspring that die early.

3. There is a diversity of opinion among leading obstetricians and gynecologists in North America as to whether or not excessive smoking impairs a woman's reproductive efficiency, but the evidence accumulated strongly indicates that it does and an analysis of the replies to a questionnaire indicates that over 40 per cent are of the opinion that it does have an unfavorable effect upon female fertility.

4. The author believes that there is sufficient evidence at hand to warrant the strong assumption that chronic nicotine poisoning such as results from the smoking and inhaling of from eighteen to twenty-five cigarettes a day is prejudicial to efficient childbearing. He believes that it impairs the integrity of the nervous system, that it interferes with nutrition, that it predisposes to respiratory infection, and that it has an unfavorable effect on the circulatory system. He further believes that excessive cigarette

smoking is frequently associated with other excesses and that it predisposes to a general lowering of the threshold of self-control, which is prerequisite to normal health.

5. The author strongly advises moderation in smoking among females, and especially among young adults who are to become the mothers of our nation. During pregnancy and the puerperium and during the period of lactation smoking should be reduced to a minimum, namely, from one to four or five cigarettes a day.

6. Physicians should sound a note of warning concerning excessive smoking among their female patients and should advise them of the unfavorable possibilities of this habit upon their general health and of the effect that it may have on their reproductive function.

### Bibliography

- Bogen, Emil: *Jour. Am. Med. Assn.*, 93:110, 1929.  
 Hatcher, R. A., and Crosby, H.: *Jour. Pharmacol. & Exper. Therap.*, 1:32, 1927.  
 Kiefer, K. H.: *Zentralblatt für Gesamte Hyg. u. ihre Grenzgebiete*, 26:337, 1931-32.  
 Maddock, W. G., and Collier, F. A.: *Ann. Surg.*, p. 70, (July) 1933.  
 Mgalobeli, M.: *Monatschrift für Geburt. u. Gyn.*, (June) 1931.  
 Nakasawa, Rukura: *Jap. Jour. of Med. Sciences*, LV Pharm. Trans. & Absst., Tokyo, 7: No. 1, (June) 1933.  
 Ogata, Sukema: *Jour. Med. Research*, 40, Mar.-Sept., 1919.  
 Thompson, Wm. B.: *Amer. Jour. Obst. & Gyn.*, p. 663, (Nov.) 1933.  
 Unbehau, Gerd: *Arch. für Gyn.*, p. 371, 1931.  
 Wilhelm, Emanuel: *Zeitschrift für Kinderheil Kunde*, 52, 1931-32.

## INTERMITTENT DUODENAL OBSTRUCTION

J. KENNER BELL, M.D.†

DETROIT, MICHIGAN

For several years there has been considerable controversy as to whether there is such a condition as intermittent duodenal obstruction. As one scans the literature an increasing volume of evidence is presented to prove its existence. But these same articles are far from unanimous with respect to the nomenclature, etiology, physical findings and treatment. It has been variously called duodenal ileus, duodenal stasis and chronic intermittent obstruction. The latter terminology appears to be most accurately descriptive even though some cases are seen shortly after the initial onset of symptoms and hence can hardly be classed as chronic.

Shattuck and Imboden<sup>5</sup> recently published their findings in an authoritative series of cases of this type but included therein a group wherein the cause was ap-

parently a band of adhesions involving the first and second portions of the duodenum.

In this paper the observations deal only with a duodenal obstruction or stasis in which the causative mechanism is in the third portion of the duodenum or at the duodeno-jejunal junction. This mechanism is not due to any adhesions or other organic disease, as far as can be determined, but is

†Dr. Bell is a graduate, B.A., University of Toronto, 1920; M.D., Toronto University Medical School, 1923. From 1923 to 1928 he was in the Departments of Medicine and Gastro-Enterology, Ford Hospital, Detroit. He is attending physician, Woman's Hospital, and on the Medical Staff of Receiving Hospital, Detroit. His practice is limited to internal medicine, at 1654 National Bank Bldg., Detroit.



the result of abnormal physical characteristics resulting in disturbance of the normal function of this portion of the gastro-intestinal tract.

Over a period of several years I have been greatly interested in a steadily increasing group of cases of this type. These patients have all had quite thorough gastro-intestinal study, but these failed to show any unusual findings except the roentgenological demonstration of delayed evacuation of the duodenum. Similar findings have been noted in association with other gastro-intestinal disorders but such cases are not included here.

### Etiology

Duodenal obstruction of this type could, theoretically, be caused in many different ways. The most common conception is that in certain individuals the mesentery and its attendant structures, when crossing the intestine at, or near, the duodeno-jejunal junction exert a pressure sufficient in degree to partially constrict the lumen. However, other factors must be given just consideration.

In 1904 Gates studied a series of 100 cadavers in which he attempted to determine the relationship between the stomach and colon. His conclusion was that there is no definite relationship between these organs. However, there are certain fairly constant relations of portions of the gastro-intestinal tract, such as the duodenum and the duodeno-hepatic ligament, the upper extremity of the root of the mesentery of the small intestine and the point of emergence of the superior mesenteric artery. The latter passes over the ventral surface of the third portion of the duodenum and could very readily exert pressure at this point.

According to Todd, the tone of the gastro-intestinal musculature will vary from day to day. Such a variation in tone would certainly favor the development of this picture and we do, unquestionably, find recurrence of symptoms, at times, following prolonged nervous tension or fatigue when we would expect a decrease in the general tonicity.

Embryologists have shown us that in fetal life the mesenteric vessels come to lie across the duodenum during the rotation of the original gastric tube. Hence, anomalies of position may readily develop. There may be an unusually sharp angulation of the

duodeno-jejunal flexure, particularly in an asthenic type of individual. Raymer Jones,<sup>2</sup> in 1930, stated that in a number of cases he found this latter phenomenon and noted that it was aggravated by the pull of several loops of small intestine coiled in the pelvis. The ligament of Treitz, it has been stated, may also at times cause compression in this location.

It is also quite possible that in certain cases a neurogenic factor might be the basis of the trouble. In these cases we could assume that there is an absence of normal nerve supply to a portion of the duodenum resulting in inadequate muscular function of this part of the digestive tube. This lack of normal nerve supply has been demonstrated by certain Australian workers when working on the causation of megalocolon. Similar findings may some day be reported in investigation of this subject.

Other observers have suggested that the weight of a full atonic stomach might in itself compress the third portion of the duodenum and prevent its emptying. This does not seem possible however, when we consider the relationship of these organs, particularly when the patient is standing.

### Incidence

From the twenty-three cases which have been studied the following facts are of pertinent interest. The condition is definitely more common in women than in men. It occurs most frequently from the twenty-fifth to the thirty-fifth year, but extremes have been reported from three to seventy. In this group there were fifteen women and eight men. The youngest patient was fifteen and the oldest fifty-six. All but two were definitely of the asthenic type and with only one exception there was considerable ptosis of the stomach and colon.

Quite recently it was my privilege to see a case, which was demonstrated by Rowland and Johnston, occurring in a two month old infant. This child was operated because of intestinal obstruction and the above condition was found.

### Symptomatology

As before stated, the symptoms are variable and except in extreme cases are intermittent in their appearance and irregular in their duration.

In describing the symptomatology it might be well to again consider the type of



condition present. If we have a severe case we could very reasonably expect to find symptoms similar to those present with any other type of upper intestinal obstruction only perhaps in not such a marked degree. This, I believe, is the case.

On the other hand, in the milder type of case, where symptoms occur at intervals we can compare them with what happens when the duodenum is suddenly distended by artificial means.

Different investigators have tried to work out some scheme whereby an opaque substance might be introduced directly into the duodenum. This was done in an attempt to visualize more accurately the functions of this portion of the digestive tract and avoid the interference of the superimposed gastric shadow. Almost invariably this has proved to be impractical as the sudden filling of the duodenum beyond normal conditions resulted in considerable distress accompanied, usually, by nausea or vomiting. I have frequently noted the same symptoms during transduodenal biliary drainage either at the time of stimulation of bile flow or when flushing out the tract on the completion of drainage. At these times the solution must be introduced slowly to avoid any distress due to sudden duodenal distention.

The average patient will give something like the following story. He will complain of upper abdominal distress usually appearing soon after a meal. This distress is usually described as a feeling of fullness or bloating beyond all proportion to what he has eaten. There is usually belching or a desire to belch but such eructations do not necessarily give any relief. The appetite is not, as a rule, very good during these attacks. However, occasionally the patient will state that he will sit down to a meal with a good appetite only to find that he feels quite full after a few mouthfuls of food. During periods of remission the appetite is fairly normal.

Sour stomach and heartburn are frequently present and in most instances sodium bicarbonate has been used with varying results. In most cases there is a history of nausea and in the more severe types vomiting is present. In these latter cases the emesis usually gives rather prompt relief, so much so, that frequently the patient has learned to throw up with very little effort and practically none of the unpleasantness present after emesis due to other causes.

Vomiting is not projectile in character. The vomitus usually consists of sour, bitter undigested food, frequently with considerable mucus and in some instances bile is present.

Pain, that is real pain, is present in about one-half of the cases. When present it is almost entirely confined to the upper abdomen, chiefly the epigastrium. It may be a constant aching pain but is most frequently described as a crampy pain. It may appear from fifteen minutes to two hours after eating.

Practically all of these patients will state that they experience relief by lying on the abdomen or by assuming knee-chest position. Many of them have formed the habit of lying on the abdomen when sleeping, as they are much more comfortable in that posture. In many instances an abdominal belt is worn as it lessens the distress. One of my female patients has stated most positively that during the past few years the two periods when she felt best were during the latter months of her two pregnancies. After delivery, symptoms almost immediately returned. From this, one cannot help but assume that upward pressure of the enlarged uterus gave support which either lessened the duodeno-jejunal angulation or in some other way facilitated emptying of the duodenum.

The type of food consumed does not seem to make much difference, with the exception that in some instances a very soft or liquid diet may be taken with very little discomfort, but any bulky food will cause considerable distress. There is, apparently, no difference between warm and cold foods unless there is some associated colon dysfunction.

Constipation was present in most of these cases (eighteen) and was usually of constant duration rather than an associated condition only noted during periods of duodenal dysfunction.

Nervousness was complained of in some degree in all of these cases and was described in various ways such as restlessness, emotional instability, inability to work properly, particularly if the work was more mental than physical, and lassitude out of all proportion to the work done.

These latter symptoms are suggestive of toxemia and might be explained by comparing the condition present with that produced by various physiologists experimenting on animals, with closed duodenal loops. Such

animals soon develop a serious, toxic condition. Whipple says this is due to absorption of a primary proteose arising from the intestinal mucosa. More recently Herrin and Meek<sup>3</sup> have published the results of their very interesting experiments, in which they demonstrated very conclusively that this toxemia is a result of the abnormal distention of the duodenum. Clinically it is conceivable that a duodenal obstruction, even though only partial and not due to organic disease, might result in similar toxemia of lesser degree of severity.

When confronted with such a condition it is easy to see how many of these patients have been diagnosed and treated for a variety of maladies such as neuroses, anemia, auto-intoxication, constipation and so on with no appreciable relief.

### Physical Examination

These patients are mostly of the asthenic type, slender and underweight. The complexion is often sallow and usually some degree of pallor is present. The muscle tone is usually poor and the blood pressure frequently subnormal. The pulse is variable. Abdominal examination will almost always reveal a soft, flabby musculature with evidence of ptosis of the various organs. Frequently the stomach can be outlined and shown to contain food or fluid taken quite some time before. Considerable gurgling after palpation of the partially filled stomach is frequently noted. The deep reflexes appear to be hyperactive in most cases.

### X-ray Examination

X-ray examination was first reported by Jordan in 1911. Preliminary examination by fluoroscope should be done four to six hours after ingestion of a barium meal. This will usually reveal a gastric residue of varying proportions. However, this examination does not as a rule reveal the cause of the delayed emptying, as at this time the duodenum is not distended since most of the barium has worked its way beyond the duodeno-jejunal flexure. The stomach should not be manipulated as it may increase peristalsis and give a false idea of gastric motility.

Following these observations more barium is given slowly. The stomach will usually be found to lie quite low in the abdomen,

not infrequently the greater curvature being down to the bottom of the pelvis. Peristalsis is very weak, sometimes being barely demonstrable. At first, a fair amount of barium may leave the stomach immediately and progress rapidly around to the third portion of the duodenum, where it seems to halt. Gradually the lumen of the duodenum will widen and present a feathery appearance. Pretty soon a typical writhing movement sets in as anti-peristalsis is inaugurated and increases in intensity. Some of the barium may return to the stomach. Small amounts of barium may trickle into the jejunum every few seconds.

Manipulation of the stomach, particularly gentle upward pressure, will frequently relieve the obstructive factor and the barium will then move around more rapidly through the duodenum once it leaves the stomach.

Observations should be made with the patient in the vertical, prone and supine positions. This is advised since what we might call positive findings are frequently noted in the vertical position in patients with no symptoms or in patients who have some other type of pathology. But, if the condition persists with the patient lying on the back and even more so if present when lying on the abdomen, I believe especial attention should be focused on this area.

This is said, remembering that these patients, as noted above, will state that they frequently can tolerate a liquid or soft diet when a bulky diet causes distress. Hence it would seem that if a thin barium meal will show the above findings thick barium would certainly demonstrate them more profoundly. In two cases I ventured to give patients a thick almost solid barium mixture but it was so repulsive to them that not enough was taken to make a satisfactory examination.

The x-ray films in these cases will confirm the above findings but from them alone one cannot make a diagnosis. I believe that the most valuable information which one obtains is that derived from the fluoroscopic examination, and then only in conjunction with the history and physical examination. When in doubt, repeated examinations should be made as they may clarify the situation. These are also of considerable help in determining the progress of a patient under treatment. In four such cases where medical treatment was satisfactory a decided change in the fluoroscopic picture was



noted. This change was evidenced by partial or almost total disappearance of the signs of duodenal stasis.

### Laboratory Studies

Gastric analysis did not reveal any constant findings. Transduodenal biliary drainage by the Lyon method did, in some instances, show evidence of biliary tract stasis but there were no findings that could be said to be indicative of the condition with which we are dealing. Five patients showed positive skin tests to a vaccine of *B. Coli communis* and two to *Streptococcus fecolis*. Varying degrees of mild anemia are usually present. Stool examinations were negative for blood.

### Treatment

In this type of duodenal stasis due to pressure across the terminal portion of the duodenum, I believe that medical treatment is the method of choice at first. Any measure that will tend to build up the patient is justified. If possible the patient is better to be in bed. Exercise can be used to strengthen the abdominal muscles. If up and around a properly fitted abdominal belt is frequently of considerable help.

Meals should consist at first of nourishing food in liquid or soft form. Frequent small meals are preferable to the usual three meals a day. If possible, I have the patient lie on the right side or on the abdomen, or assume knee-chest position for one-half to one hour after a meal. Sedatives are prescribed as indicated and satisfactory bowel elimination must be maintained.

In two instances after other resources failed I have been able to improve nutrition by using insulin as suggested by Barker and other writers. If the patient is in bed Wilkie believes in elevating the foot of the bed. From this one can readily see that no one course of procedure is satisfactory to all and in some instances no satisfactory result occurs.

In this latter group surgery will, in some instances, offer marked relief. The first operation for this type of condition was, I believe, performed by Staveley in 1902. As to the most satisfactory type of operation, providing that it is not simply a problem of

releasing some adhesions, I will leave that to the judgment of the individual surgeon as I have not seen a sufficient number of operated cases to feel qualified to express any dogmatic opinion. However, duodeno-jejunosomy appears to give the best results.

One of the most experienced men in this field is Wilkie of Edinburgh and he prefers to do a duodeno-jejunosomy. Higgins of Cleveland has published results of a large series of cases operated upon by this method and with good results. Shattuck and Imboden have reported that eight of their series of cases were operated, when medical treatment had failed, with considerable relief in all but two cases, from this operation.

Gastropexy and cecopexy and gastro-enterostomy have been tried with rather discouraging results. However, in the case of the infant, mentioned above, posterior gastro-enterostomy was performed with an excellent result up to the present. This operation was performed in January, 1933.

In conclusion I would like to reiterate that apparently there is a large group of individuals who have considerable distress from interference with the normal mechanism of duodenal evacuation due to pressure at or near the duodeno-jejunal flexure. This pressure may be due to a number of benign causes.

Such a diagnosis should only be made after the correlation of a careful history, a thorough physical examination with laboratory study and a complete roentgenological study.

Treatment should first be of a medical nature and if that should fail then surgery must be considered, although, in neither cases can one guarantee absolute relief.

The surgical method of choice is duodeno-jejunosomy.

### Bibliography

1. Balfour, D. C., and Gray, H. K.: Ileus. Congenital deformity. *Surg. Clin. North America*, 12:862-865, (Aug.), 1932.
2. Hegarty, D. F.: Chronic duodenal ileus. *Brit. Med. Jour.*, 2:836, 1932.
3. Herrin, R. C., and Meek, W. J.: Distention as a factor in intestinal obstruction. *Arch. Int. Med.*, 51: 152-168, (Jan.) 1933.
4. Higgins, C. C.: Chronic duodenal ileus. *Trans. Sect. Surg. Gen. and Abd., Amer. Med. Assn.*, pp. 127-131, 1928.
5. Shattuck, H. F., and Imboden, H. M.: Chronic intermittent duodenal obstruction. *Jour. Am. Med. Assn.*, 98:943-947, 1932.
6. Wilkie, D. P. D.: Duodenal ileus. *Am. Jour. Med. Sc.*, 173:643-649, 1927.



## CONSERVATIVE REPAIR OF PELVIC PROLAPSE

EARL G. KRIEG, M.D.†

DETROIT, MICHIGAN

Conservative surgery in pelvic prolapse is primarily considered during the child-bearing period. Accurate diagnosis and repair of the tissues involved leads to excellent results. The technic so well described by George Gray Ward was used in each case presented here and, although the series is small, uniform success was achieved in all degrees of prolapse, two of which were of the third degree type.

The extent of injury to the supporting structures of the pelvic organs determines the degree of pelvic prolapse. In current usage, pelvic prolapse infers some degree of uterine prolapse, accompanied, or not, by other pelvic organs. We are using the term in the latter sense in this paper.

## Anatomy

The anatomy primarily involved is that of the upper pelvic floor or diaphragm, which consists of the suspensory structures of the uterus, vagina, bladder and urethra. These structures are so intimately associated with one another that some authors describe them as integral parts of a whole. From the surgical aspect they are best described separately. They are: the utero-sacral, the cardinal, the utero-pubic and round ligaments and the vesical fascia. With the exception of the round ligaments, surgical repair is directed individually to each of these structures when they are damaged.

†Dr. Krieg graduated from Detroit College of Medicine, now Wayne University, in 1925. He served his internship in Grace Hospital, 1925-1926. He was Surgical Resident, Jefferson Clinic and Diagnostic Hospital, 1926-1927; Resident Gynecologist 1927-1929; Resident Surgeon, 1929-1930, Receiving Hospital.

He is Junior Associate in Gynecology at Receiving Hospital, Instructor in Gynecology at Wayne University of Medicine, and Junior Attending Surgeon at Woman's Hospital.

Secondarily, the "perineum," or lower diaphragm, composed of the levator ani group of muscles and fasciæ, the urogenital diaphragm and the sphincter ani and vaginæ, may be involved. The structures of the upper and lower diaphragms may be involved in any combination and degree of injury. B. J. Anson gives a beautiful description of the anatomy in Curtis's new "Gynecology and Obstetrics."

The relationship of one diaphragm to the other may be compared to the floors of a two-story house with a collapsible stairway running through the middle of each floor. The floors with their concealed supports represent the upper and lower diaphragms while the stairway represents the genital tract. With this homely comparison we can roughly visualize our problems. Damage of the upper plane will cause sagging (prolapse) of the stairway even if there is little or no damage to the lower plane. Severe damage to both floors, which is most frequent in prolapse, allows easy collapse.

## Summary of Cases

No.	Age	DEGREE OF INJURY									Duration of Symptoms	Ovarian Cyst Removed	Result	
		Prolapse			Cysto-cle	Recto-cle	Incont. Urine	Uterine Retroversion						
		1st	2nd	3rd				1st	2nd	3rd			Anat.	Clin.
G-1509	28	1			1	1	1		1		8 yr.		Excell.	Excell.
G-2654	40	1			1	1	1			1	7 yr.		Excell.	Excell.
G-3341	41		1		1	1			1		20 yr.		Excell.	Excell.
G-4588	26		1		1	1				1	6 yr.		Excell.	Excell.
G-4936	31	1			1					1	6 yr.		Good	Excell.
G-5330	42		1		1	1				1	12 yr.		Excell.	Excell.
N-11306	36	1			1	1	1		1		?		Excell.	Excell.
607	32			1						1	5 yr.		Excell.	Excell.
721	25		1		1	1				1	8 yr.		Excell.	Excell.
792	29		1		1	1	1			1	8 yr.	1	Excell.	Excell.
795	33			1	1	1	1		1		8 yr.	1	Excell.	Excell.

It is evident why repairs should be made to both planes at the same time.

### Method of Repair

The theory of the Ward method of conservative repair of pelvic prolapse is based upon the result of trauma in the above described situation and the repair of the injured structures. Accurate specific diagnosis of the extent of injury must precede the repair. All of the supporting structures of the pelvis, with the possible exception of the round ligaments, are readily accessible through one avenue, the vagina. It has been shown that shortening of the round ligaments is not necessary in the repair of these cases. These considerations are important for they obviate the necessity of a laparotomy with the attendant risk and discomfort.

The chart gives a brief summary of each case with the result. The term "excellent," anatomically and clinically, refers to the replacement of organs to planes within normal limits and cessation of all referable symptoms respectively.

### Comment

In our first four cases Ward's technic was carried out entirely as described, but in the fourth case the retroversion was not entirely corrected and the vesico-uterine angle was not as pronounced as it should have been; we believed that the stay sutures of catgut were absorbed before adequate healing took place. Since then a silkworm stay suture has been substituted allowing it to remain two to three weeks before removal, with good results.

The Kelley method of suture was used for all cases of incontinence.

In two cases good sized ovarian cysts were removed vaginally.

All cases were followed for periods varying from three months to three years.

### Summary

1. Ward's method of repair eliminates an abdominal operation.
2. Normal anatomical relationship is maintained.

### Bibliography

- Anson, B. J.: *Pelvic anatomy*, Curtis's *Gynecology and Obstetrics*, Vol. 1.  
Ward, G. G.: *Kelley's Gynecology*, p. 305.

## A DISCUSSION OF THE VALUE OF VARIOUS PROPHYLACTIC MEASURES IN THE PREVENTION OF COMMON COLDS\*

PERRIN H. LONG, M.D.†

BALTIMORE, MARYLAND

There can be no question of the widespread public interest in the prevention of colds. One has only to examine the advertising columns of our leading periodicals to realize that the manufacture and sale of proprietary remedies designed to prevent colds constitute an industry of sizable proportions. That such an industry can only be supported by a public which is not only "cold conscious" but also eager to adopt any method which promises relief from respiratory infections, is self-evident. It is for these reasons that in this report an attempt will be made to analyze and discuss critically the various ethical measures and remedies which are advocated as being of prophylactic value in the prevention of upper respiratory tract infection. Inasmuch as a discussion of all methods now in use would be too time-consuming, the majority of the measures will be reviewed briefly while the rôle of vitamin and vaccine therapy in the prevention of colds will be discussed at length.

During the past fifty years numerous remedies have been suggested by the medical profession as specifics in the prevention of upper respiratory tract infection. Shortly after the introduction of cocaine hydrochloride into therapeutic usage we find it lauded as an excellent remedy for aborting colds<sup>47</sup> and as recently as 1928 we again find a detailed discussion of its value in treating colds.<sup>4</sup> (One wonders how many individuals have been converted into drug addicts by the use of this method.) Bicarbonate of

\*From the Department of Medicine, the Johns Hopkins University, Baltimore, Maryland. Read before the section of Ophthalmology and Otolaryngology, the Michigan State Medical Society, September 13, 1934.

†Dr. Perrin H. Long is a graduate of the University of Michigan, B.S. and M.D., 1924. He is Associate in Medicine at the Johns Hopkins University Medical School.

soda has had recurring waves of popularity as a prophylactic during the past century. Recently it has been in favor again on the basis that the administration of soda controls an assumed but as yet undemonstrated state of acidosis which is supposed to predispose the individual to colds.

Spraying and douching the nose and throat with bland or antiseptic solutions during periods in which colds are prevalent have always had many advocates. The only difficulty with these measures is that they accomplish little. It has been shown<sup>9</sup> that it is impossible to free rabbits' upper respiratory passages of pathogenic organisms by treatment with antiseptic solutions. Furthermore, there is definite evidence that the indiscriminate use of nasal douches is a dangerous procedure and is liable to be followed by infections of the paranasal sinuses. Hardening exercises in the open air, during the season of the year in which colds are prevalent have been very popular in the prophylaxis of respiratory tract infection during the past twenty years. However, the evidence which is available does not support the value of such measures. It has been shown<sup>23</sup> that, in a group of three hundred adults who were studied during the winter of 1929-30, upper respiratory tract infection was as prevalent, as severe and of the same type in individuals who exercised four or more hours per week out of doors as it was in individuals whose outdoor exercise amounted to less than four hours per week.

The rôle played by vitamins in the economy of the human body has been under continuous investigation for the past twenty years and in this period certain experimental facts have been adduced which have led investigators to hope that certain of the vitamins might be of value in the prophylaxis of human upper respiratory tract infection.

During the earlier investigations upon the effect of vitamin therapy in resistance to infection, the substance called "fat soluble A" was considered to be a single factor. It was later shown to contain both Vitamin A and Vitamin D. Hence, in evaluating the earlier reports dealing with the effects of "fat soluble A" the dual nature of the substance must be kept in mind.

In 1913, Osborne and Mendel<sup>44</sup> described a peculiar eye disease occurring in rats whose diet was deficient in "fat soluble A."

This condition was later called xerophthalmia. Within a few years several investigators<sup>19,36,51</sup> noted that respiratory tract and other infections were common in rats which were suffering from a "fat soluble A" deficiency. Daniels<sup>15</sup> found that rats fed upon a deficient diet for ten weeks always showed a purulent sinusitis and otitis media and that in some of the animals abscesses at the base of the tongue and lung infections were present. At about the same time Mori,<sup>41</sup> working in McCollum's laboratory, described the pathological changes occurring in the respiratory tracts of "fat soluble A" deficient animals. Xerotic changes of the mucous membranes of the larynx and trachea were noted, together with a progressive thickening of the epithelial layers. Eventually the xerotic process involved the tracheal mucosa. At this stage the xerosis often became complicated by inflammatory changes which involved the bronchi and lungs and which sometimes terminated in a broncho pneumonia. This was the first detailed description of the changes occurring in the respiratory tract.

Shortly after Mori's report, Yudkin<sup>58</sup> and Lambert<sup>33</sup> stated that, as a result of their observations, they believed that the earliest lesions in "fat soluble A" deficiency were focal inflammatory lesions in the cornea and that the cornification of the cornea was essentially a secondary change, thus making a state of lowered resistance followed by infection the important factor in the production of the experimental disease.

However, in 1925, Wolbach and Howe<sup>55</sup> confirmed and extended the observations of Mori. They found that, while infection of the nares was common, the epithelial changes occurred wholly independently of infection. In the larynx, trachea, or bronchi infection was or was not present, with or without replacement of the normal mucosa by keratinizing epithelium. In the lungs proper, all changes, whether or not accompanied by infection, were considered as secondary to the changes in the bronchi. Their final conclusions were that "the substitution of the keratinizing epithelium in all locations is not secondary to infections, and presumably is a primary effect of the withdrawal of factors essential for the chemical activities or maintenance of the epitheliums concerned." In the course of further investigations<sup>56</sup> these authors have



likewise shown that in recovery from this vitamin deficiency "the epithelium in each region returns to its normal type."

Recently it has been demonstrated that slight lesions of the mucous membrane can be detected before any gross signs of Vitamin "A" deficiency appear. Thatcher and Sure<sup>52</sup> have pointed out that changes in the posterior part of the tongue and in the respiratory tract may occur before any other of the epithelial structures are involved. Such an observation, taken in conjunction with those of Wolbach and Howe, seems to point definitely to a primary epithelial change which may or may not be followed by an infection. The susceptibility of the damaged epithelium may be due to several factors:<sup>46</sup>

1. The absence or reduction of the mucous membrane secretions which not only wash off bacteria and other particles but also have an active bactericidal action.

2. The presence of epithelial debris, particularly in glands whose ducts have been blocked, provides a favorable medium for the growth of bacteria which are already present.

3. The possibly increased permeability of the metaplastic mucous membrane.

4. Artificially induced infections in such animals suggest that the general as well as the local resistance of these animals may be lower than normal."

In summarizing the relation of experimental "fat soluble A" deficiency to the occurrence of infection, it may be said that there seems to be rather definite evidence that such a deficiency renders the experimental animal susceptible to spontaneous respiratory tract infection as a result of the widespread metaplasia of the epithelium of the respiratory tract. The part played by the lowering of the general resistance of the animal is as yet uncertain.

Despite the fact that large series of cases have been reported from various parts of the world, it is difficult to demonstrate that respiratory tract infection is prevalent in human beings who suffer from a "fat soluble A" vitamin deficiency. During the Great War, Bloch<sup>5</sup> reported that children suffering from a Vitamin "A" deficiency were very susceptible to respiratory tract infection for some time before they developed clinical xerophthalmia. In a later communication the same author<sup>6</sup> states that 80 per cent of

Danish infants admitted to hospitals because of xerophthalmia showed severe infections elsewhere. Niemann and Foth<sup>43</sup> observed that infants on a restricted diet suffered a higher mortality rate during an influenza outbreak than did those who received a diet rich in Vitamin "A." In England<sup>22</sup> an epidemic of pneumonia associated with non-contagious, granular, conjunctivitis cleared up after the eye condition was recognized as early xerophthalmia and a proper dietary régime was instituted. Cody<sup>13</sup> reported that diets deficient in Vitamin "A" and "D" gave rise to a chronic, non-fetid rhinitis which was benefited by vitamin therapy. He also thought that cod liver oil was of great value in preventing upper respiratory tract infection.

It was early shown by Wilson and Du-bois<sup>54</sup> that in extreme "fat soluble A" deficiency in man, the pathological changes, both in regard to the primary epithelial metaplasia and the secondary inflammatory reactions, were identical with those described in the experimental condition in rats. This observation has been confirmed by Wolbach.<sup>56</sup> It would seem, therefore, that although "fat soluble A" deficiencies have been widespread at various times, the same degree of secondary changes resulting from infection are not as common in human beings as they are reported to be in experimental animals.

There has been very little reported concerning the use of Vitamin "A" and Vitamin "D" in the prophylaxis of respiratory tract infection. Holmes and his associates<sup>31</sup> studied the incidence of colds in two groups of industrial workers during a four-month period. The first group consisted of 185 individuals and to each of these a daily tablespoon of cod liver oil was given. The second group of 128 individuals served as controls. Fifty-five per cent of the treated group were free of colds during the test period, while only thirty-three per cent of the controls were not ill with respiratory tract infection. Fifty-two per cent of the vitamin treated group and forty-one per cent of the control group lost no time from work during the test period. Taken at their face value, these results would seem to be very promising but when the size of the groups and the short period of observation are taken into account, it is possible that the results represent the vagaries of chance.

In concluding the discussion upon the use of Vitamin "A" and "D" in the prophylaxis of respiratory tract infection it is evident from experimental data that a grave deficiency of these substances brings about changes in the epithelial surfaces which promote the chances of infection. However, one finds relatively few clinical reports which substantiate the findings in experimental animals. It would seem, though, from these few reports, that a marked Vitamin "A" and Vitamin "D" deficiency in human beings is associated with an increased susceptibility to infections of various sorts. Little, however, is known in regard to the susceptibility to infection of individuals who are suffering from mild grades of Vitamin "A" and "D" deficiency. As far as the prophylaxis of respiratory tract infection is concerned there is little exact knowledge as to the value of these two substances.

When the value of Vitamin "A" alone in the prophylaxis of respiratory tract infection is considered, very little in the way of experimental or clinical evidence can be found. Goldblatt and Benisek<sup>25</sup> have reported that the same type of epithelial metaplasia and localized infections can be produced in rats deficient in Vitamin "A" alone as had been previously described in Vitamin "A" and "D" deficient animals. Rats fed on a Vitamin "A" deficient diet lived only one-half as long as the controls and generally died of lung disease, according to the report of Sherman and McLeod.<sup>48</sup>

In human beings Clausen<sup>11</sup> believed that the severity of respiratory tract infection can be correlated with a relative deficiency of Vitamin "A" in children. Erben<sup>20</sup> on the other hand, while not able to lessen the incidence of respiratory tract infection, thought that the severity of the infections was lessened by the use of a Vitamin "A" concentrate. Wright and his associate<sup>57</sup> were unable to lessen the incidence of respiratory tract infection by the administration of an abundance of Vitamin "A," and in a carefully observed group of infants Hess and his collaborators<sup>27</sup> were unable to reduce the incidence of either winter or summer respiratory tract infections. Recently Clausen<sup>12</sup> has suggested that too much Vitamin "A" may predispose children to respiratory tract infection.

It is clear, therefore, that little clinical evidence has been adduced, up to the present time, in support of the use of Vitamin

"A" alone in the prophylaxis of respiratory infection. This lack of clinical evidence is due to the fact that in general our diet is not deficient in Vitamin "A."

There is very little experimental evidence that a Vitamin "B" deficiency plays any rôle in the production of respiratory tract disease in animals. Cody<sup>13</sup> reported that rats kept upon a Vitamin "B" deficient diet developed a polycystic condition in the nasal mucosa in the upper posterior ethmoid region. Certain investigators<sup>40</sup> have reported that an increased Vitamin "B" content in children's diets has reduced the number of respiratory tract infections suffered by these children and Cody<sup>13</sup> has reported a clinical syndrome characterized by slight but frequent postnasal discharge which can be improved by the addition of brewer's yeast to the individual patient's diet. In general, it can be said that there is little evidence that a Vitamin "B" deficiency plays a rôle in the production of colds.

There is little experimental evidence that a Vitamin "C" deficiency renders experimental animals susceptible to spontaneous respiratory tract infection. Zuzuki<sup>59</sup> thought that he was able to demonstrate an atrophy of the nasal mucous membranes accompanied by a catarrhal inflammation in guinea pigs suffering from scurvy. Heyman<sup>29</sup> reported that he lost a large number of his scorbutic guinea pigs as the result of pneumococcic pneumonia.

In latent scurvy Abels<sup>1</sup> has reported that infections are severe and that in children suffering from this condition coryza and pharyngitis are especially severe. Both Abels<sup>1</sup> and Hess<sup>28</sup> have remarked upon the frequency of respiratory tract infection in scorbutic children and Abels quotes Erdheim as the authority for the statement that such diseases were frequently very grave and very persistent in scorbutic children. It is evident that manifest scurvy predisposes an individual to infection, but there is little evidence that an excess of Vitamin "C" over that in the normal diet is of any benefit in the prevention of colds.

The experimental evidence that Vitamin "D" deficient animals are liable to respiratory tract disease is limited to the report of György and his co-workers,<sup>26</sup> who reported that in an epidemic of coryza among their experimental rats, 39 per cent of those suffering from rickets died, while all of the controls survived. It has long been believed



that rachitic children are susceptible to acute respiratory tract infection. However, this observation is based upon clinical impressions and has not as yet been put to a statistical test.

There have not been any well controlled observations upon the value of Vitamin "D" in the prevention of upper respiratory tract disease except by means of ultra violet radiation, and in respect to this prophylactic procedure the published reports are at variance. In 1928 Maughm and Smiley<sup>38</sup> reported that "a ten minute irradiation of the naked body with the ordinary mercury vapor lamp at a distance of 30 inches once a week throughout the dark period of the year resulted, in four groups of persons (fifty-eight persons), in a reduction in the frequency of colds of from 27.9 to 40.3 per cent." In a second report the same authors<sup>39</sup> stated that an irradiated, "cold susceptible" group of college students had an average of 1.56 colds per person in the test period as compared to 2.80 per individual for a control group of 26 students who were not irradiated and who were considered comparable in susceptibility. In another test period with "cold susceptibles" a similar positive result was obtained.

Contrary results were obtained by Barenberg and Lewis<sup>3</sup> in a group of infants who received a heavier and more frequent exposure to ultra violet light. The irradiated children had more colds than those in the non-radiated control group. Similar results were obtained by Colebrook<sup>14</sup> in a group of 287 children. Of these, 101 were irradiated by light from an unscreened carbon arc; 94 were exposed to a similar lamp from which radiation of wave lengths shorter than 3,200 A.U. was cut off by a screen of window glass and 92 children received no irradiation. The tests were made during the fall and winter months of 1927 and 1928. The results showed that the screened and control group had slightly fewer colds per child than the irradiated group, while the average duration of the colds was the same in all three groups.

In 1929, in Baltimore, Doull and his associates<sup>17</sup> carried out a most careful investigation of the effects of radiation with ultra violet light. In summarizing their experiments they stated that—

"1. A group of adult volunteers, numbering 363, was kept under observation

from September 29, 1929, to May 31, 1930, a period of 35 weeks, and a vigorous effort was made to secure reports of all cases of upper respiratory tract disease (common colds).

"2. From this number, approximately one-half were selected at random for irradiation, which was given over the first thirty-one weeks of the period. Mercury-vapor lamps were used and the intensity of the erythema-producing rays was measured bi-weekly. The dosage was light to moderate, the individuals being stripped to the waist and exposed, either on the chest or back on each occasion, to that dose which from previous experience with the subject seemed likely to produce only a minimal erythema.

"3. Total incidence (of respiratory infection) for the period was slightly higher for the irradiated (receiving more than 10 treatments) than for the controls. Also cases of a more severe type, as evidenced by absence from duty and confinement to bed, by occurrence of fever, by productive cough or by long duration were just as frequent in the irradiated as in the control group."

It is apparent from the results of the careful experiments of Colebrook and of Doull and his collaborators that irradiation of human beings with ultra violet light does not lessen the incidence or severity of colds.

Bacterial vaccines have been used in the prophylaxis of colds for over twenty-five years. Their introduction for this purpose followed shortly after Wright's successful demonstration of the value of typhoid vaccine in the prevention of typhoid fever. Although little was known twenty-five years ago concerning the causal factors in upper respiratory tract infection, it was generally assumed that certain of the bacteria appearing in the nasal secretions in colds were responsible for the infection. As early as 1902 Pfeiffer<sup>45</sup> considered the micrococcus catarrhalis as an important agent in the production of colds. Since that time *Bacillus septus* (a diphtheroid), pneumococci, streptococci, *Bacillus rhinitis*, influenza bacilli, and staphylococci have been thought by various investigators to be the causal agents of colds. These assumptions were generally based upon studies of the pharyngeal and nasal flora in small groups of individuals without adequate previous investigations of



the basal bacterial flora of the nose and throat in such individuals or without proper control studies upon normal human beings.

It was a natural corollary that, with the demonstration of a particular organism, or group of organisms, in a given series of colds, a bacterial vaccine should be prepared against the apparent offending organism in hopes of preventing future attacks.

The first reports upon the use of such vaccines were very encouraging and there seemed to be ample evidence that not only was the incidence of upper respiratory tract infection decreased but also that the duration and severity of such attacks were decreased. One of the earliest advocates of vaccine therapy reported<sup>2</sup> that the use of a vaccine composed of *B. septus*, *M. catarhalis*, *M. para tetragenus*, pneumococci, *B. influenzae* and *B. Friedländer*:

1. Aborted acute attacks or greatly shortened their duration.
2. Decreased the risk of complications.
3. Relieved chronic sufferers.
4. Conferred a certain amount of immunity.

Two courses of vaccine a year were recommended for those who desired the prevention of colds.

A similar enthusiasm for this new type of therapy was evidenced by Campbell,<sup>10</sup> who reported that by the use of autogenous vaccines "not only are we able to cut short an acute cold, but also to confer considerable immunity against future attacks. By this method we can, further, often successfully treat colds which have become chronic, *e.g.*, chronic rhinitis, laryngitis, bronchitis, etc."

During the pandemic of influenza in 1918-19, numerous observers tested the efficacy of mixed bacterial vaccines in the prevention of respiratory tract infection with varying degrees of success. The *British Medical Journal*<sup>7</sup> stated that: "The percentage of successes and the length of immunity after vaccination are very variable with any stock vaccine, and autogenous vaccines are the best, but many failures occur." This perhaps was the first widespread warning that bacterial vaccines might be of dubious value in the prevention of respiratory tract infection.

In 1919 Mackey<sup>37</sup> sounded a note of caution in respect to the indiscriminate use of vaccines in the prophylaxis and treatment of upper respiratory tract infections. His

experience had led him to believe that the proper use of autogenous vaccines would greatly relieve about one-half the sufferers from recurrent nasal catarrh and modify the infection in about one-third of the remainder. He also remarked upon the favorable effects of vaccine therapy in improving the general nutrition of the treated individuals.

The first carefully planned observations upon the effects of vaccine therapy in the prevention of respiratory tract infection were those of Von Sholly and Park<sup>50</sup> in 1921. These investigators gave prophylactic inoculations against colds to 1,536 employees of the home office of the Metropolitan Life Insurance Company of New York. A control group of 3,025 uninoculated employees was formed and both groups were carefully observed over a six months' period. Of the inoculated group, 13.7 per cent, as against 29.7 per cent of the control group escaped respiratory infection during the period of observation. The incidence of influenza was the same in both groups. Three cases of pneumonia developed in the inoculated subjects as against twelve in the control group. In analyzing their results, these observers stated that: "We may draw contrary conclusions depending upon whichever part of the report we lay more stress. . . . On the whole, balancing both sides, our evidence does not make a strong case in favor of vaccines given by us as a prophylactic agent against acute respiratory tract diseases—pneumonia alone excepted."

During the same year (1921) Jordan and Sharp<sup>32</sup> reported upon their experiences in attempting to prevent respiratory tract infection in a group of over two thousand individuals who had been inoculated with the same mixed bacterial vaccine as had been used by Von Sholly and Park. Their observations were made during a period from November, 1919, until June, 1920. In this space of time 118 cases (4.1 per cent) of influenza developed in 2,873 persons as against 152 (4.8 per cent) cases of influenza in 3,193 unvaccinated individuals. A special group of 347 University of Chicago students were carefully observed in respect to "colds" during the period of study. In this student group 164 were vaccinated while 183 served as controls. In the vaccinated group there were 248 cases of rhinitis, twenty-six cases of bronchitis and forty-four cases of combined rhinitis and bronchitis as against

216 cases of rhinitis, twenty-five cases of bronchitis and twenty-eight cases of rhinitis and bronchitis combined in the control group. Essentially there was no difference in the number of upper respiratory tract infections in the two groups. However, when the vaccinated group was interviewed at the end of the test period all but two thought that they had been benefited by the vaccine and as the authors remark: "‘Satisfied patient conclusions’ differ widely from those of controlled statistics."

Similar results to those just discussed were obtained by Ferguson, Davey and Topley<sup>21</sup> in a group of English University students. A mixed vaccine containing 8 different organisms was used to immunize a group of 138 students while 148 students served as a control group. At the conclusion of the period of observation it was found that the mean number of colds per person was 1.47 in the vaccinated group and 1.14 in the control group. The only possible conclusion from such results was that prophylactic vaccination with the stock vaccine used was useless. Other investigators<sup>42</sup> during recent years have reported results corresponding to those just reported.

However, we find many reports during the decade of 1920 to 1930 in which "cold vaccines" were considered to be of value. Many of these deal with "satisfied patient conclusions" or the results are based upon too limited observations. There were, however, certain observations, such as those of Lempriere,<sup>34</sup> in which the plan of procedure was adequate and the results of statistical significance. In his third report Lempriere stated that colds occurred in 30 per cent of his inoculated group as against 32 per cent in the control group. Influenza attacked 37 per cent of the inoculated persons and 52 per cent of the non-vaccinated individuals. The average days lost were about the same in both groups and the complication was 18 per cent in the vaccinated group as opposed to 30 per cent in the control group.

Finally, in 1933, Dochez, Mills and Kneeland<sup>16</sup> stated that in a group of vaccinated infants immunization with a simple mixture of the killed prevailing respiratory tract pathogens did not reduce "the number of simple colds or of respiratory infections associated with fever in the vaccinated as compared with the non-vaccinated groups. There was, however, an apparent reduction

in the severity of infections in the vaccinated group as judged by the average duration of the febrile period." This was shorter by 40 per cent, in the vaccinated as compared with the unvaccinated group. These observers in summing up their evidence seemed to believe: "That the technic of carrying out such immunization is time-consuming and burdensome and, in view of the relatively slight protection obtained, does not seem promising for general use."

It seems quite obvious from a survey of the results obtained when bacterial vaccines are used in the prophylaxis of upper respiratory tract infection that the incidence of colds is not decreased, nor is the severity and duration of such infections appreciably diminished. There is, however, some evidence that the complications attendant upon respiratory tract infections are lessened by the prophylactic use of these vaccines. It is not difficult to understand the failure of bacterial vaccines to modify the incidence of colds in view of the mass of acceptable evidence regarding the etiological significance of a filtrable virus as the primary causal agent in epidemic colds. Bacterial vaccines would not be expected to modify the course of a primary virus infection.

It is more difficult to explain the failure of vaccines to diminish the severity or duration of colds. If the prevailing theory is correct that the potentially pathogenic micro-organisms normally resident in the upper respiratory tract become activated by the primary virus infection, and thus contribute their share of untoward effects to the general picture of upper respiratory tract infection, then vaccines might be expected to produce some definite results.

However, evidence of the benefit derived from vaccination against the supposed harmful concomitant effects of the potentially pathogenic bacteria is found to be lacking. There are several explanations for this failure. In the first place, Van Volkenburgh and Frost<sup>53</sup> and Doull and his associates<sup>18</sup> have shown in the course of careful clinical studies, covering two thousand cases of upper respiratory tract infection, that the signs and symptoms of a cold are generally most severe during the first four days of the disease. It was also demonstrated in these studies that over 90 per cent of the cases were not attended by any type of complications. A further analysis of these cases has shown that in a group of 214 cases of



upper respiratory tract infection which were studied for the presence of the influenza bacillus, the presence of fever, weakness, nasal discharge, sore throat and cough was noted as frequently or more frequently in those cases in which influenza bacilli were not found as they were in those in which the organisms were isolated. It has also been noted<sup>49</sup> that the nasal secretions contain few bacteria during the earlier stages of the cold. Thus there is evidence from the clinical and bacteriological studies in uncomplicated colds to demonstrate that the more severe constitutional disturbances may occur before the nasal passages are heavily infested with bacteria and that, insofar as the influenza bacillus is concerned, a more severe type of reaction may occur in individuals who do not harbor this organism than in those who are infested with it.

It is a generally accepted belief that the true pathogenicity of many micro-organisms is primarily determined by their ability to invade the body tissues and thereby set up a reaction. Therefore, if the streptococci, pneumococci, influenza bacilli and other micro-organisms which are frequently found in normal throats, are activated to pathogenicity by the primary virus infection in colds, evidence of tissue invasion should be forthcoming. In the sole modern investigation of the histopathology of the nasal mucosa in upper respiratory tract infection, Hilding<sup>30</sup> has demonstrated by studies upon repeated biopsies taken from the nasal mucosa at various stages in colds that the so-called potentially pathogenic micro-organisms do not invade the tissues, but are always found floating free in the nasal secretions.

It is, therefore, possible on the basis of the clinical, bacteriological and histopathological findings that little real evidence exists for the assumption that the secondarily invading micro-organisms play an important role in uncomplicated colds. Because of the paucity of information upon this point we have endeavored, during the past three years, to determine if possible the true part played by bacteria in the course of colds.

Our primary studies were designed to determine the type and significance of the cellular content of the nasal secretions in colds. We have demonstrated<sup>35</sup> in a large series of observations that two main types of cellular response are found in the nasal

secretions from patients with colds. The first type is characterized by an early predominance of phagocytic and epithelial cells in the secretions while in the second type polymorphonuclear neutrophilic leukocytes predominate from the beginning of the infection.

An attempt was next made to correlate the cellular response with the bacterial content of the nasal secretions. During the past year we have examined 120 specimens of nasal secretions from twenty cases of colds. In fifteen of these cases, the secretions were obtained upon the first day of the infection. Seven of the first day specimens showed a predominance of polymorphonuclear neutrophilic leukocytes and of these seven samples four were practically free from bacteria when cultured upon blood agar plates, while three contained thousands of micro-organisms. Of the eight first day samples of nasal secretions in which monocytes and epithelial cells predominated, five showed an abundance of organisms and three were practically sterile. It is evident from these findings that on the first day of colds it is not possible to correlate the presence or absence of bacteria with a polymorphonuclear neutrophilic leukocyte response. Inasmuch as streptococci, staphylococci, and pneumococci were the organisms generally found in these secretions this lack of correlation assumes added importance.

Late in the course of these colds (*i.e.*, after the fourth day) the polymorphonuclear neutrophilic leukocytes averaged 90 per cent of the total cells present in the nasal secretions. Nevertheless a very scanty bacterial growth was obtained from eighteen out of sixty-five specimens examined in the late stages of these colds. Here again is a demonstration that the puriform character of the nasal secretions in the advanced stages of colds is not dependent upon the presence of numbers of bacteria.

As it was impossible to obtain normal nasal secretions in quantities adequate for examination, control studies were made upon the secretions derived from eighteen individuals who were suffering from uncomplicated ragweed hay fever. Twelve of the eighteen samples of nasal secretions were heavily infested with bacteria. In seven of the twelve specimens eosinophiles predominated, and in the other five the polymorphonuclear neutrophilic leukocytes were barely in the majority, thus giving further



evidence that a heavy bacterial infestation is not necessarily accompanied by a puriform response. It is interesting to note that all of these patients gave a history of rapid relief upon entering an air-conditioned theater and Gay<sup>24</sup> has found that individuals suffering from uncomplicated pollen hay fever are relieved of their signs and symptoms in from ten to thirty minutes after entering an air-conditioned atmosphere. Certainly in this instance the heavy bacterial infestation found in the nasal secretions cannot play any rôle in the production of the signs or symptoms of the disease.

Inasmuch as the invasion of the tissues by bacteria, such as staphylococci, streptococci, and pneumococci, is accompanied by a purulent response, the lack of correlation between the bacterial content and cellular response of the nasal secretions is considered to be evidence of a lack of pathogeny upon the part of these bacteria in the course of colds. Therefore it may be assumed that these organisms are present in the nasal secretions because these secretions constitute a medium favorable for bacterial growth. If this be true, then the failure of bacterial vaccines to modify the severity or duration of uncomplicated colds can be easily understood.

We have presented these preliminary observations with the full knowledge that many more studies of the nasal secretions must be conducted before we can arrive at a definite interpretation of the observed facts. However, we believe that our observations are in agreement with the demonstrated facts concerning the clinical value of bacterial vaccines in the prophylaxis of uncomplicated common colds.

### Conclusion

It seems possible to summarize briefly the known facts in regard to the value of prophylactic measures in the prevention of colds by saying that none of the present therapeutic measures is satisfactory. There is little evidence that intensive vitamin therapy is of benefit except in those individuals who show recognizable evidence of a vitamin deprivation. Bacterial vaccines do not seem to influence the incidence of colds, are of little value in decreasing the duration or severity of colds, and are uncertain in their prevention of complications attendant upon upper respiratory tract infection.

### Bibliography

- Abels, H.: *Ergeb. d. inn. Med. u. Kinderheilk.*, 26:733, 1924.
- Allen, R. W.: *Bacterial Diseases of Respiration and Vaccines in their Treatment*, 1913, Lewis, London.
- Barenberg, L. H., and Lewis, J. M.: *Jour. Am. Med. Assn.*, 90:504, 1928.
- Beyer, H.: *Deutsche Med. Wchnschr.*, 54:512, 1928.
- Bloch, C. E.: *Ugesk. f. Laeger*, 79:309, 1917.
- Bloch, C. E.: *Am. Jour. Dis. Child.*, 27:137, 1924.
- Brit. Med. Jour.*, 96, (July 19) 1919.
- Brown, W. E.: *Am. Jour. Hyg.*, 15:36, 1932.
- Bull, C. G., and Bailey, G. H.: *Amer. J. Hyg.*, p. 7, 1927.
- Campbell, H.: *Practitioner*, 83:469, 1909.
- Clausen, S. W.: *Am. Jour. Dis. Child.*, 42:689, 1931.
- Clausen, S. W., and McCord, A. B.: *Jour. Am. Med. Assn.*, 101:1384, 1933.
- Cody, C. C.: *Arch. of Otol.*, 16:661, 1932.
- Colebrook, D.: *Med. Res. Council, Spec. Rep.*, 131, 1929.
- Daniels, A. L., et al.: *Jour. Am. Med. Assn.*, 81:828, 1923.
- Dochez, A. R., Mills, K. C., and Kneeland, J. Y.: *Jour. Hyg.*, 17:122, 1933.
- Doull, J. A., et al.: *Am. Jour. Hyg.*, 13:460, 1931.
- Doull, J. A., Herman, N. B., and Gafafer, W. M.: *Am. Jour. Hyg.*, 17:536, 1933.
- Drummond, J. C.: *Bioch. Jour.*, 13:95, 1919.
- Erben, F.: *Deutsche med. Wchnschr.*, 59:534, 1933.
- Ferguson, F. R., Davey, A. F. C., and Topley, W. W. C.: *Jour. Hyg.*, 26:97, 1927.
- Findlay, G. M.: *Proc. Royal Soc. Med.*, p. 18, 1925, *Gen. Reports*, 24.
- Gafafer, W. M.: *Amer. Jour. Hyg.*, 16:233, 1932.
- Gay, L. N.: Personal communication.
- Goldblatt, H., and Beneschek, M.: *Jour. Exp. Med.*, 46:699, 1927.
- György, P., Jenke, M., and Popoviciu, G.: *Jahrb. f. Kinderheilk.*, 112:35, 1926.
- Hess, A. F., Lewis, J. M., and Barenberg, L. H.: *Jour. Am. Med. Assn.*, 101:657, 1933.
- Hess, A. F.: *Am. Jour. Dis. Child.*, 14:337, 1917.
- Heyman, B.: *Klin. Woch.*, 5:59, 1926.
- Hilding, A.: *Arch. Otol.*, 12:133, 1930.
- Holmes, A. D., et al.: *Indust. and Eng. Chem.*, 24:1058, 1932.
- Jordan, E. O., and Sharp, W. B.: *Jour. Infect. Dis.*, 28:357, 1921.
- Lambert, R. A., and Yudkin, A. M.: *J. Exp. Med.*, 38:25, 1923.
- Lempriere, L. R.: *Brit. Med. Jour.*, (April 2) 1927, 642; *ibid.*, (Oct. 22) 1927, p. 775; *Jour. Roy. San. Instit.*, 485, 1927; *Brit. Med. Jour.*, p. 973, (May 25) 1929.
- Long, P. H., Bliss, E. A., and Carpenter, H. M.: *Jour. Clin. Investigation*, 12:1127, 1933.
- McCollum, E. V.: *Jour. Am. Med. Assn.*, 68:1379, 1917.
- Mackey, L.: *Brit. Med. Jour.*, p. 151, (Aug. 9) 1919.
- Maughm, G. H., and Smiley, D. F.: *Jour. Prev. Med.*, 2:69, 1928.
- Maughm, G. H., and Smiley, F. D.: *Am. Jour. Hyg.*, 9:466, 1920.
- Mills, C. A.: *Am. Jour. Med. Sc.*, 175:376, 1928.
- Mori, S.: *Bull. Johns Hopkins Hosp.*, 33:357, 1922.
- Mummery, N. H.: *Jour. Indust. Hyg.*, 10:295, 1928.
- Niemann, A., and Foth, K.: *Deutsche med. Wchnschr.*, 45:741, 1919.
- Osborne, T. B., and Mendel, L. B.: *Jour. Biol. Chem.*, 16:423, 1913.
- Pfeiffer, H., and Ghon, L.: *Ztschr. f. Klin. Med.*, 44:262, 1902.
- Robertson, E. C.: *Medicine*, 13:123, 1934.
- Robinson, J. A.: *Chicago Med. Jour. and Exam.*, 51:52, 1885.
- Sherman, H. C., and McLeod, F. L.: *Jour. Am. Chem. Soc.*, 47:1685, 1925.
- Shibley, G. S., Hanger, F. M., and Dochez, A. R.: *Jour. Exp. Med.*, 43:415, 1926.
- Sholly, von, A., and Park, W. H.: *Jour. Immunol.*, 6:103, 1921.
- Steenbock, H., et al.: *Jour. Biol. Chem.*, 47:89, 1921.
- Thatcher, H. S., and Sure, B.: *Arch. Path.*, 13:756, 1932.
- Van Volkenburgh, V. A., and Frost, W. H.: *Am. Jour. Hyg.*, 17:122, 1933.
- Wilson, J. R., and Dubois, R. O.: *Am. Jour. Dis. Child.*, 26:431, 1923.
- Wolbach, S. B., and Howe, P. R.: *Jour. Exp. Med.*, 43:753, 1925.
- Wolbach, S. B., and Howe, P. R.: *Jour. Exp. Med.*, 57:511, 1933.
- Wright, H. P., et al.: *Can. Med. Assn. Jour.*, 25:416, 1931.
- Yudkin, A. M., and Lambert, R. A.: *Jour. Exp. Med.*, 38:17, 1923.
- Zuzuki, S.: *Mitteil. a. d. med. Akad. zu Kioto.*, 6:2533, 1932.

## CASE REPORT OF A SOLID TERATOMA OF THE OVARY\*

SUSANNE MUNRO SANDERSON, M.D.†

DETROIT, MICHIGAN

In studying ovarian teratomata one is struck with the confusion in classification, the various ideas concerning their origin, and the uncertainty of malignancy in the solid form. There are no pathognomonic symptoms which aid in the diagnosis of solid teratomata. They occur more frequently in the young. The solid type cannot be differentiated preoperatively from other solid tumors of the ovary. Like all solid tumors of the ovary their pedicles may become twisted. They are usually unilateral.

All solid teratomata should be considered intrinsically malignant and removed intact. No ovarian tumor should be punctured, for fear of infection and metastasis. Other organs, especially the opposite ovary, should be carefully inspected. In the young, and if the tumor is intact and there are no signs of metastasis, or attachment of the growth to other organs, the consensus of opinion by many leading gynecologists is that conservative surgery should be considered, but if the tumor is thought to be malignant a complete removal should be done.

## Case Report

Miss B., colored school girl, age fourteen years, was admitted to the out-patient department of the Gynecological Service, Woman's Hospital, April 4, 1934. Her chief complaint was an enlargement of the abdomen. The patient noticed a gradual increase in the size of the abdomen in the last two years. She stated the enlargement started at the beginning of menstruation and at the end of two years extended from the pelvis to the costal margin. This growth has not been accompanied by pain or other symptoms. Patient states her general health has been good.

There was evidence of a firm irregular tumor mass filling the abdomen and extending up to the costal margin. Tumor mass could be felt in both lumbar regions, slightly larger in right quadrant. Menstruation began at the age of twelve years, twenty-eight-day type. Duration four days. No dysmenorrhea. No leukorrheal discharge. Last period March 10, 1934.

Urological examination negative. Wassermann negative. Blood count negative. Heart and chest normal. Blood pressure normal.

Operated upon May 10, 1934. A large ten and one-quarter pound tumor of the left ovary, which completely filled the abdomen extending from the pelvis to the diaphragm, was removed with the left tube. The tumor was considered malignant macroscopically, and a hysterectomy and a right salpingo-oophorectomy were done. The patient made a good recovery and was discharged on May 21, 1934. The patient is well at present.

*Pathologic Report.*‡—Specimen consists of a large tumor replacing entirely the left ovary. Spheroidal in shape and its diameter is 24.5 cm. It

weighs 10.25 pounds. The major part of its external surface is smooth and glistening. In a few areas there are nodular projections ranging in size from a hempseed to that of a pigeon's egg; these consist of dilated blood vessels pushing before them the dense connective tissue envelope of this tumor. The external surface of this tumor is reddish-white in color. It is crossed by numerous extremely congested and dilated blood vessels, showing complicated branching and arborization. The upper part of this tumor contains firm fibrous tissue in excess. This area was attached to the omentum. The large blood vessels passing here were the size of a lead pencil, while they were in a pulsating stage during operation. The consistency of this tumor was that of a resistant rubber ball; it is somewhat firmer than normal liver and slightly softer than the consistency of tendon. On gross inspection of the surface of this tumor a large number of well circumscribed formations were observed. Here the distinctly yellowish color predominates. The noduli are separated by a moderate amount of semisoft loose connective and mucoid tissue. Numerous scattered hemorrhagic areas ranging in size from a hempseed to that of a pigeon's egg were observed. There is a moderate amount of necrotic changes especially noted in rapidly growing parts of the tumor. The left uterine tube measures 16.5x0.7 cm. It is extremely stretched and slightly twisted by its long axis. It does not show any pathological changes.

Diagnosis: Malignant teratoma (sarcomatous type) of the left ovary.

## Conclusions

A uniform classification should be adopted. A satisfactory classification is cystic and solid teratomata. Solid teratomata of the ovary according to Geist, Kelly-Noble, Eden and Frank, are very rare; Graves states that only about fifty cases of the solid variety have been reported; Frank has collected forty-eight positive cases and fifteen doubtful ones, and Frankel, in 1920, collected only sixty cases from all the literature. The prognosis is grave. Conservatism should be observed in the young when the covering membrane is intact, and there is no evidence of malignancy. In older women if there is a suspicion of malignancy, a radical operation should be performed.

\*From the Gynecological Service of the Woman's Hospital, Detroit, Michigan.

†Dr. Susanne Munro Sanderson is a member of the Woman's Hospital Staff and Grace Hospital Staff, Detroit.

‡I am indebted to M. A. Oginsky, M.D., Pathologist, for the pathologic report of this case.



## FETAL HYPOGLYCEMIA DUE TO HYPERINSULINISM\*

WILLIAM HENRY GORDON, M.D.†

DETROIT, MICHIGAN

The diabetic mother is frequently delivered of a dead fetus; or, if alive, it dies soon after birth. This fact has been noted by a great number of physicians and several reports substantiating this fact have appeared in the literature. It has also been noted that the full term fetus of the diabetic mother is usually large. Many theories have been advanced as to the cause of these phenomena.

Three cases with autopsy findings are reported. These three cases present certain findings which may offer a logical explanation for these phenomena.

## Case Reports

**Case 1.**—H. M., a white woman, thirty-nine years of age, was first seen August 23, 1928, in diabetic coma. History, obtained from her sister, was that the patient was eight months pregnant and had noted a cessation of fetal movements for twenty-four hours preceding the onset of the coma, which occurred in the early morning of the same day. The patient was very restless and jerky for the twenty-four hours preceding the coma. The onset of the diabetes was in 1920.

**Past History.**—Influenza in 1918. Severe headache at times. Nocturia once a night two years ago. Frequency, polydipsia, and polyuria before delivery of first child. Loss of sixty pounds in the past five years; weight five years ago 240 pounds.

**Catamenia.**—Onset of menses at fourteen years of age. Irregular at onset. Duration five days. During the past five years the menses were irregular, sometimes every three to four months. There has been leukorrhea between periods.

**Family History.**—Mother died at sixty years of age of diabetes. Father dead of unknown cause.

**Marital History.**—Married twice. First husband died. Patient had five pregnancies by her first husband. Four children living and well; the other was born dead nine years ago. There were four pregnancies by her second husband. The first three were stillbirths. The patient is now in the eighth month of her ninth pregnancy.

**Physical Examination.**—Patient lying in bed in coma. Acetone odor to breath. Face is flushed. Mouth and tongue are dry. Fetal heart beats are not heard. The systolic blood pressure was 45 to 60; the diastolic was 30.

**Laboratory Data.**—A catheterized specimen of urine showed acetone, diacetic acid, sugar, albumin, and casts.

**Progress.**—Forty units of insulin was given with 1000 c.c. of interstitial saline. Insulin was repeated with 20 units at 8 a. m., 20 units at 9 a. m. with intravenous glucose, 20 units at 10 and also at 11 a. m. Caffeine sodium benzoate was also administered, but patient expired at 11:58 a. m.

**Post Mortem Examination.**—The body is that of a well nourished woman, thirty-five to forty years of age. It shows none of the effects of a prolonged illness. The abdomen is occupied by a symmetrical rounded mass which extends from symphysis to xiphoid, the appearance of an eight months pregnancy. Examination is restricted to the chest and abdomen. The pleural sacs contain no fluid, there are no pleural adhesions. The lungs are pink,

aerated throughout. The covering of the heart is free, no adhesions. The heart has halted in systole and all four chambers are empty. The muscle of the ventricle is thick because of this rigor. The valve flaps of all four chambers are delicate. The coronaries are normal. Abdomen: liver, spleen and gastro-intestinal tract are normal. The abdominal

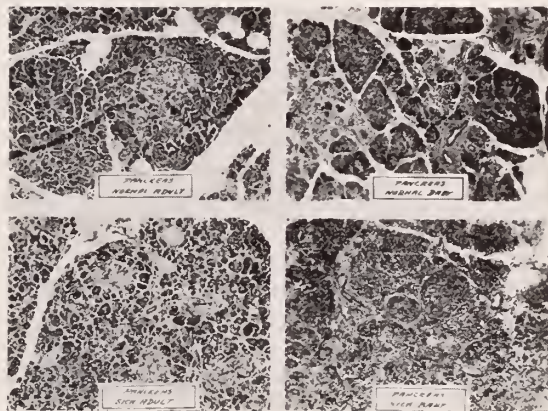


Fig. 1. Sections of the pancreas of a normal adult and the adult in Case 1 who died from absolute diabetes. Also the section of a normal baby's pancreas and the section of a pancreas of the fetus in utero of this mother (Case 1).

cavity contains a gravid uterus which presses up to under surface of the liver and the diaphragm. The wall of the uterus is of a pink-purple hue. It is  $\frac{3}{8}$ -inch to  $\frac{1}{2}$ -inch in thickness. The membranes are intact. Opening into the amniotic sac releases a normal amount of fluid. The uterus contains an eight month fetus lying in the L.O.A. position, the head apparently engaged. These are the findings in a normal eight month pregnancy. The ureters on both sides are dilated to the size of a middle finger. They are distended with a column of urine. About two inches from the vesicle orifice on each side there is a point at which the ureters become normal in diameter and remain thus for their distal two inches. The pelves of both kidneys are dilated 2-3 times normal size, and the mucosa of the both pelves (particularly the left) is striped by crimson flames of inflammation. The major calyces likewise are dilated, but do not participate in this inflammatory process. The cortex of the kidney is not thinner than normal, nor are the papillae blunted. The capsule strips easily. The pancreas is normal in size, not involved in an inflammatory process. The cut section is normal, no increase in fibrous tissue. *Examination of the fetus:* The fetus is

\*Read before Harper Hospital Staff, June, 1934; Hancock County Medical Society at Findlay, Ohio, September, 1934, and Lima, Ohio, Medical Society, November, 1934.

†Doctor Gordon is a graduate of the University of Michigan Medical School in June, 1916. He is attending physician at Harper Hospital and Herman Kiefer Hospital and Chief of Medicine at the North End Clinic, Detroit.



large for an eight month pregnancy. The skin is macerated. The fetus has been dead some time. The heart is normal. Foramen ovale and ductus arteriosus are patent, although the openings are small. Abdomen: the viscera are mushy and macerated, they cannot be dissected, sections could not

mellitus in 1924. She coöperated very poorly with her diet and insulin and was treated at the hospital one year later and one and one-half years later and three times in the next three years. Her complaints this admission (February 13, 1934) were uncontrolled diabetes and an eight months pregnancy.

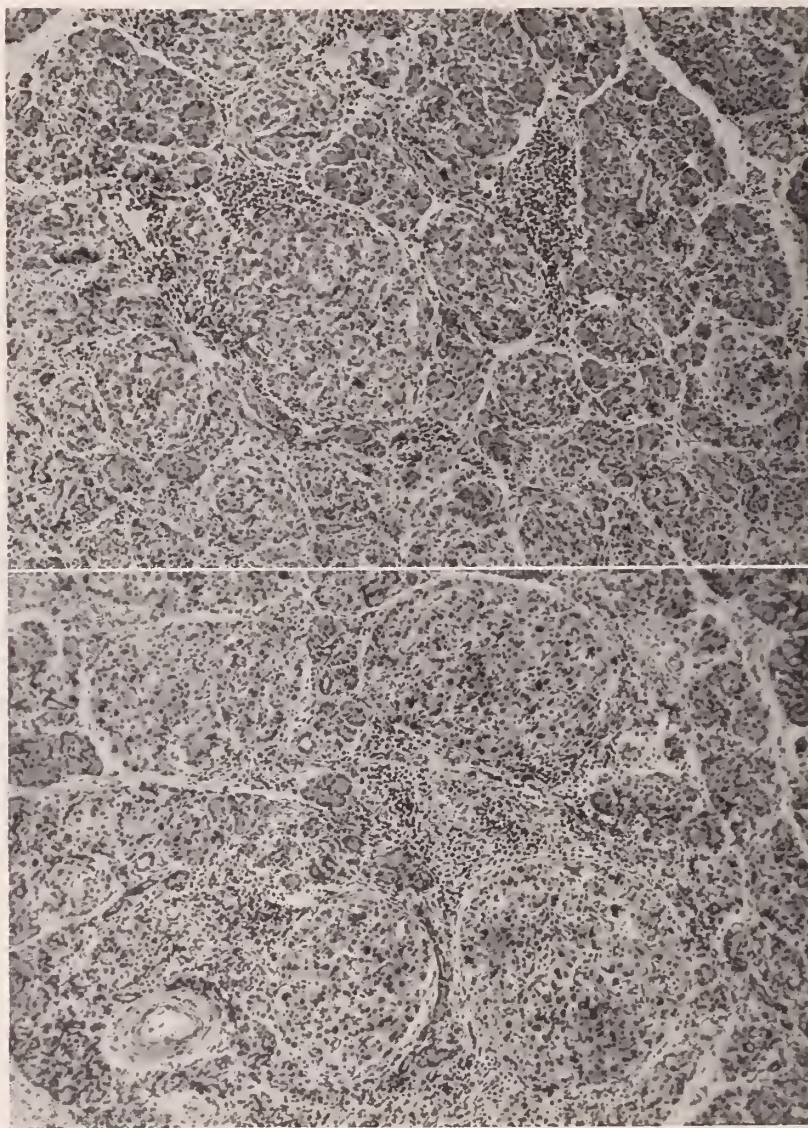


Fig. 2. Pancreas of Case 2 (above) and Case 3 (below) showing the hyperplasia of the cells resulting in hypertrophy of the Islands of Langerhans.

be taken of the spleen or kidneys or liver for this reason. The pancreas was of normal size and color. *Laboratory findings:* Maternal urine; sugar xxxx; acetone xx. Fetal urine: sugar xxxx; acetone xx (much cellular debris). Amniotic fluid: sugar trace; acetone trace. *Gross pathological diagnosis* of mother: Diabetes mellitus (maternal urine); bilateral hydronephrosis and dilated ureters with associated acute pyelitis of pregnancy; eight months pregnancy. Fetus: diabetes mellitus and acidosis (fetal urine).

*Case 2.*—J. R., a white woman, twenty-four years of age, has been under medical observation and care since 1922. Patient first treated for diabetes

She has noticed edema of her ankles for the past few months. She has had a cold the past week.

*Past History.*—Appendectomy for a gangrenous appendix in 1923.

*Marital History.*—Patient was married two years ago. She was delivered of a full term stillbirth one year ago.

*Physical Examination.*—The nose shows bloody crusts on mucous membrane, no discharge. The upper teeth are false. The lowers are in good repair. The tonsils have been removed. There is a mild pharyngitis. The breasts are full. A few moist râles are heard at the right base. Otherwise the lungs present no abnormalities. The heart is



not enlarged and the sounds are of good quality and regular. There is a systolic murmur heard at the base. There is a splitting of A2 and P2. The systolic blood pressure is 92; the diastolic is 68. The abdomen is enlarged to that of an eight months pregnancy. The fetal heart sounds are heard. There

rean and its mother was a very severe diabetic, for this reason the heart blood specimen was examined for sugar and N.C.N.; sugar reported as too low to read. Although the size of the pancreas did not suggest much hypertrophy, several sections were run through to determine the possibility of a hypo-

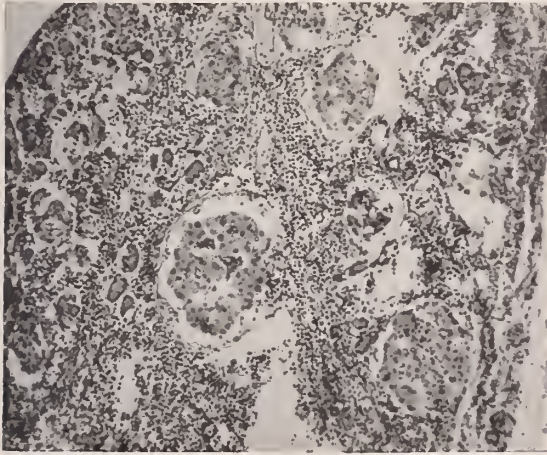


Fig. 3. A higher magnification of Case 3.

is a healed scar in the right lower quadrant. Otherwise examination is negative.

*Progress.*—The patient was admitted to the hospital at 5:30 p. m. A blood sugar taken immediately was reported to be .045 per cent. She was given intravenous glucose and at 8:37 p. m. she was delivered by cesarean section of a baby boy weighing 5 pounds 8.5 ounces. The baby expired at 5.05 the next morning.

*Post Mortem Examination of Fetus.*—The body is that of a very normal appearing white male, newborn baby, a few hours old. There were no external marks or anomalies. Main incision: revealed a normal panniculus. On opening the abdominal cavity, no free gas or fluid escaped. The omentum was only very slightly developed. The liver appeared normal for a newborn baby. Cut surface showed a slight congestion, otherwise normal. The gall bladder was contracted, but the biliary ducts were patent. The spleen appeared perfectly normal. Cut surface appeared normal. Kidneys appeared to be of normal size. Cut surface showed a very marked congestion, as well as a more acute inflammatory process. There were several areas of hemorrhage in the renal cortex. The adrenals appeared somewhat atrophic. There were no intra-adrenal hemorrhages. Stomach, duodenum, small intestine, and colon appeared normal throughout. On opening the thoracic cavity, both lungs were seen to be atelectatic. The left lung was completely collapsed. Over the surface of both lungs were numerous petechial hemorrhages, varying in size between 1-3 cm. There were also a few petechial hemorrhages over the pericardium. Pericardium was opened and a normal amount of clear, straw colored fluid was seen. The heart was of normal size, and on sectioning appeared normal. There was no evidence of any congenital cardiac anomaly. The thymus seemed to be slightly larger than normal, and was rather diffusely spread out over the surface of the pericardium. There was no evidence that it was producing any obstruction to the air-way, however. Pathological diagnosis: Fetal asphyxia with petechial hemorrhage of the lungs and pericardium; acute nephritis. Note: This baby was born by cesa-

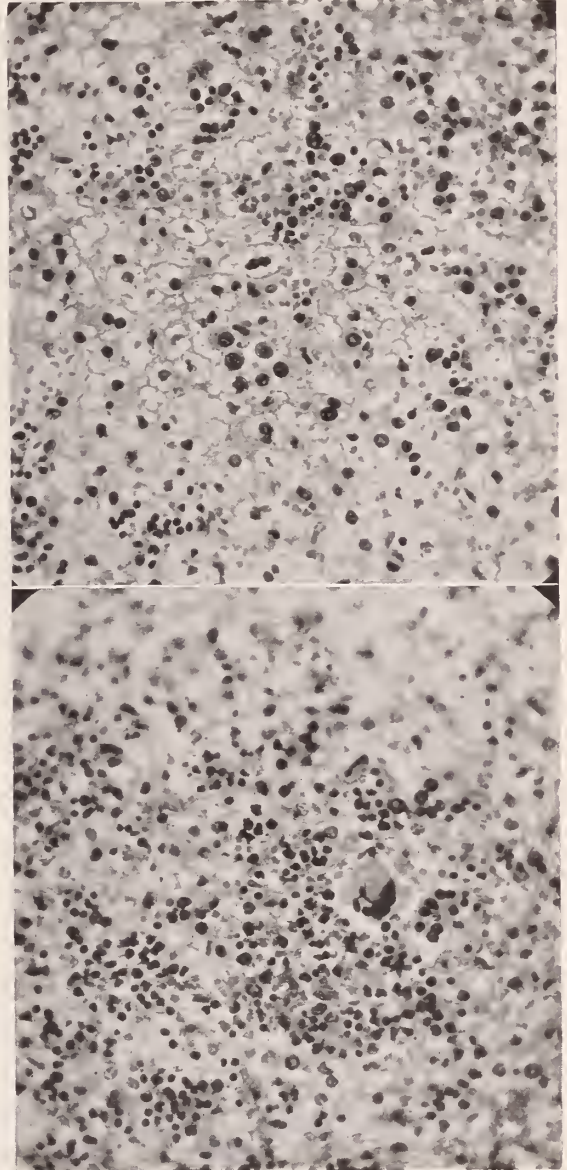


Fig. 4. Sections of the liver in Cases 2 and 3 showing the eosinophilia, the washed-out appearance of the cells, the presence of giant cells and other bone marrow cells in the tissue.

glycemic death. Laboratory reports: Post mortem blood less than .04 mgs. sugar per 100 c.c. of blood; N.C.N. 46 mgs. per 100 c.c. of blood.

*Case 3.*—W. H. G., a white woman, thirty-nine years of age, was first seen in 1931 for diabetes. She was admitted to the hospital March 1, 1934, for confinement and care of her diabetes. Her estimated date of confinement was March 14, 1934. She has had five previous pregnancies. The first, fourteen years ago, was a normal confinement. The second pregnancy terminated in a miscarriage. The

third pregnancy went to full term and she was delivered of a large dead fetus. The fourth pregnancy was also a full term dead fetus, which she says was as a result of trauma at confinement. The fifth pregnancy resulted in a miscarriage. The patient has been very uncoöperative in the care of her diabetes, and as a result has never been under control for any lengthy period.

Her past history is essentially negative.

*Physical Examination.*—The patient is poorly nourished. Her systolic blood pressure is 78. The diastolic is 54. The lungs show a few scattered râles through the upper half of the left lobe, heard both anteriorly and posteriorly. The abdomen is enlarged to that of a full term pregnancy. Otherwise physical examination is negative.

*Progress.*—The patient was delivered by cesarean section March 1, 1934, at 7:45 a. m. of a ten pound baby boy. The baby expired at 9:30 p. m. of the same day.

*Post Mortem Examination of Fetus.*—External Inspection: the body was that of a newborn, well developed and well nourished male child. There was very marked post mortem hypostasis of the dependent parts of the body. The body was partially frozen, having been kept in the icebox over night. *Main Incision:* revealed a normal panniculus. On opening the abdominal cavity, no free gas or fluid escaped. The thorax was then opened. Both lungs were seen to be atelectatic with practically complete collapse. All of the organs, including the neck organs, were then removed en masse and dissected outside the body. The thyroid appeared perfectly normal in size and on cut section. The thymus gland was about half again larger than it should be for the development of this baby. The size, however, did not apparently cause any obstruction to breathing. The lungs were practically completely collapsed and on section had a grayish red color. There was no crepitation, but rather marked congestion. None of the pulmonary tissues contained sufficient air for floating. The lungs felt very firm. The heart was of normal size and on section appeared normal throughout. There was no evidence of any congenital cardiac anomaly. There were a few petechial hemorrhages over the pericardium, and also a few in the periphery of the lung tissue. The liver appeared to be of normal size. Cut surface showed a moderate congestion, otherwise appeared normal. The gall bladder contained a very small amount of greenish yellow bile. There was no evidence of any obstruction of the biliary ducts. The pancreas appeared to be of normal size and normal consistency. Cut surface appeared normal. Sections were taken throughout the head and all along the body of the pancreas and prepared for microscopic study. Both adrenals appeared normal. Considerable post mortem degeneration. The spleen appeared normal, cut surface showing a slight amount of congestion. Both kidneys showed marked persistence of fetal lobulation, but on cut surface the renal tissue appeared normal. Pelvis and ureters were both normal. Pelvic organs appeared normal. Stomach, duodenum, small intestine and colon appeared normal throughout. *Head:* The calvarium was opened along the suture line and the brain was removed. No evidence of any cerebral hemorrhage. There were a few very small petechial hemorrhages scattered throughout the cortex, the largest being the size of the head of a pin. There was rather advanced post mortem softening and the brain was sectioned immediately. No other pathology seen. *Gross Pathological Diagnosis:* Fetal asphyxia with practically complete atelectasis of both lungs. Persistent fetal renal lobulations. *Note:* This baby was born by cesarean section of a severe diabetic mother and blood sugar studies

were made. The blood sugar from the placenta, taken at birth, was reported to be 0.07 per cent. The blood sugar from the heart, taken at post mortem examination, was reported to be 0.04 per cent. For this reason the pancreas was removed and numerous sections made throughout its length for the study of the Islands of Langerhans.

Dr. William L. Brosius has made a thorough study of the sections on these autopsies and the report is herein given: The gross pathology was not remarkable except for the large size of the babies. Sections of the pancreatic tissue from the mother of Case 1 showed the typical fibrosis and hyalinization of the Islands of Langerhans described by Opie in diabetics. The pancreatic tissue from all the babies showed an enormous hypertrophy and hyperplasia of the insular tissue. In the islands, the individual cells were large, with abundant cytoplasm, and markedly increased in number, resulting in an increase in island size, in some instances as much as six to eight times the average diameter in the normal newborn pancreas. The islands were also greatly increased in number, so that in some areas approximately 50 per cent of the tissue was insular tissue. In a few small areas there was an infiltration of small nests of island cells. In and around the islands was an abundant infiltration of eosinophiles which in some areas between islands was so extreme that more than 50 per cent of the cells were eosinophiles. There were a few lymphocytes, scattered and in collections. The acinar tissue showed no remarkable deviation from the normal picture. The livers of the babies showed an extreme grade of erythropoiesis, suggesting a myeloid change. Early cells of the erythroblastic and leukocytic series were present in large numbers. Megakaryocytes with bizarre nuclear forms were especially common. The cords of liver cells were thinned and the cells had a washed out appearance. In Case 3 they were remarkably reticulated and vacuolated and took very little stain. The other tissues examined, including the pituitary body and suprarenal bodies, showed no notable variation from normal tissues of the newborn.

Case reports are herein presented of three patients with a definite diagnosis of diabetes mellitus. All three patients were confined and autopsy findings of the infants presented. The gross pathology was not remarkable except for the large size of the babies. This finding agrees with the previous observations made by many clinicians.



In the microscopic pathology, the findings in the pancreas were very interesting. There was an enormous hypertrophy and hyperplasia of the insular tissue. The cells in the islands of Langerhans were very large and markedly increased in number. The islands were six to eight times the average diameter in the normal newborn pancreas, and were greatly increased in number with an abundant infiltration of eosinophiles in and around the islands.

In a study of a large number of diabetic mothers, it is noted that the diabetic condition in these mothers is improved from the second to the seventh month of their pregnancy. In order for the severe diabetic mother to metabolize the increased amount of carbohydrate ingested, it is necessary that there be more insulin present than the mother can supply. It is reasonable to assume that this increased supply of insulin is derived from the pancreas of the fetus, or that the fetus metabolizes the surplus carbohydrates with the insulin it produces. By reason of this fact, there is a greater supply of carbohydrates to the fetus than normally. This would account very logically for the increased size of the fetus at term. Because of this increased supply of carbohydrates to the fetus or the increased demand on the part of the mother for insulin, there results a demand hypertrophy and hyperplasia of the pancreatic tissue.

As the fetus continues to grow in utero, the pancreas is able to secrete more and more insulin, and capable of metabolizing larger amounts of carbohydrates. As the supply of carbohydrates is diminished in proportion to the increasing supply of insulin, relatively, the fetus begins to suffer a greater danger—that of hyperinsulinism. This is substantiated by the extremely low blood sugars reported to be present in the blood taken from the heart at post mortem examination.

In reviewing the literature, we find that very little has been written concerning this subject. Ronsheim in 1933 found a few cases in the literature where patients were improved during their pregnancies. Heilberg (1928), after studying the pancreas of infants born of diabetic mothers, found that the islets were increased; he even counted the islets and found them to be increased in actual numbers. Dubreuil and Anderodias studied the dead fetus of a diabetic mother and found an increase in the number of

islets. Gray and Feemster found that the pancreas of a child born of a diabetic mother contained approximately twenty-four times as much insular tissue as a normal pancreas. Feldman, Wiener, and Skipper have found a similar pathology. Skipper theorized that the hypertrophic islets would be expected to secrete an abnormal amount of insulin and they felt that the child of a badly treated diabetic mother, if alive, is in danger of succumbing from hypoglycemia developing after birth. Feldman also found in the fetal pancreas of his case that there was a definite hypertrophy as well as edema and interstitial pancreatitis. Nevinny and Schretter, together with Holman and Mathieu, have made a study of the blood sugars of normal and abnormal mothers and babies, and they found that in the normal cases the blood sugar in the infant was in the same range as found in the adult. In the abnormal cases, the blood sugar usually became very low, especially after birth. Drs. Carlson and Drennan, as early as 1911, in a study of this group of cases took bitches who were pregnant and removed the pancreas. They found that in these dogs the diabetes was better during the pregnancy, and concluded that this was due to the increased insulin given by the fetal pancreas of the puppies in utero.

In the treatment of a pregnant diabetic patient there should be a close coöperation between the internist, the obstetrician, and the pediatrician. The diabetic patient should be under control in regard to her dietary and insulin requirements before she becomes pregnant. During her pregnancy, her diabetes should be completely controlled by diet and insulin in order not to put any increased demand on the fetal pancreas. The child, at birth, should receive large doses of glucose if any signs of hyperinsulinism are present.

### Conclusions

The cause of fetal death in the diabetic mother is due to hypoglycemia resulting from hyperinsulinism. The hyperinsulinism occurs as a result of the hypertrophy and hyperplasia of the islands of Langerhans, due to the demand on the part of the mother for insulin. The fetus is large as a result of the increased metabolism of carbohydrates on the part of the fetus.

## METAPHEN DERMATITIS\*

## Report of Two Cases

G. H. BELOTE, M.D., and DON MARSHALL, M.D.†

ANN ARBOR, MICHIGAN

Since its introduction as a skin disinfectant, metaphen (the anhydride of 4, nitro-5-hydroxy-mercuri-ortho cresol) has enjoyed a slow but gradual increase in popularity. It has been repeatedly pointed out that a chemical designed for this type of work must, as one of its prime requisites, be nonirritating, and metaphen seems for the most part to have met this requirement. In their original article, Raiziss and Severac<sup>3</sup> found the substance nonirritating, in the dilutions used, to the eye and mucuous membranes of experimental animals, and later Scott and Birklang<sup>4</sup> stated that repeated applications of the acetone-alcohol-aqueous solution apparently did not injure the surface epithelium. Practically no one else has commented particularly on the irritative or nonirritative qualities of metaphen and up to the present we have been able to find but one case of metaphen dermatitis in the literature. This was recently reported by Pascher and Silverberg.<sup>2</sup>

At the present time many preparations of metaphen are in use. The aqueous "Metaphen 2500" is the most common for ocular and mucous membrane use, while the "Metaphen tincture 1:200" is the one commonly used for preoperative disinfection of the skin. This consists of metaphen 0.5 per cent, alcohol 50 per cent, acetone 10 per cent and water 39.5 per cent and is the preparation we are especially interested in.

This preparation of metaphen has been used in the Departments of Ophthalmology and Neurological Surgery as a preoperative measure for some time on approximately 400 cases. For the most part it has proved nonirritating, but in the group we find two cases who developed a very marked dermatitis in the areas to which the metaphen tincture was applied and we think there is little doubt as to the agent which produced the dermatitis.

## Report of Cases

*Case 1.* F. F., a white man of forty-three years, was admitted to the University Hospital on September 21, 1932, complaining of blindness. Examination in the Department of Ophthalmology revealed dense corneal opacities of both eyes for which a bilateral iridectomy for visual purposes was performed on October 10, 1932. Up to the time of operation the face presented no eruption of any sort. The usual ward preparation was carried out and

at the time of operation the skin of the lids and surrounding region was painted with tincture of Metaphen 1:200. On the evening of the first post-operative day the patient complained of itching and burning around the eyes, bridge of the nose and malar eminences. Examination revealed a considerable edema and erythema in the area painted with metaphen and also one small isolated patch of similar eruption on the lobe of the left ear. On the following morning the patient was seen in the Department of Dermatology where the following description was given: "The patient presents an eruption confined to the face and lobe of the left ear. It is arranged in a butterfly shape over the nose, above the eyebrows and involving the cheeks. This consists of an acute erythema and edema with superimposed pinhead size vesicles. There is in addition some weeping and the lobe of the left ear presents a nickel size similar patch." This was diagnosed as dermatitis venenata probably due to metaphen.

*Case 2.*—I. H., a white woman of sixty years, was admitted to the University Hospital on December 2, 1932, complaining of poor vision. Examination revealed bilateral sclerosing cataracts. Extraction of the right lens was performed under local anesthetic on December 8, 1932. The skin preparation was the same as in Case 1, except that only the right side was prepared. On the second postoperative day an erythema and edema was noted in the region painted with metaphen and the subsequent dermatitis was closely similar to that noted in Case 1. When seen in the Department of Dermatology the patient "presented an eruption confined to the right side of the face and chiefly around the eye. There was marked edema and erythema and while no definite vesicles were found there was considerable weeping and crusting." A diagnosis of dermatitis venenata, probably due to metaphen, was made.

Both cases were treated locally by means of saturated boric acid wet dressings and calamine lotion and recovered from the acute dermatitis in approximately ten days.

## Experimental Data

Following the development of the eruption in Case 1 and on the basis of our suspicion that it was due to tincture of metaphen, patch tests were carried out using tincture of metaphen on one arm and acetone on the other. The reaction to metaphen was distinctly positive, while that to acetone was negative. Since the other ingredients of the tincture are alcohol and water, patch

\*Studies and Contributions of the Departments of Dermatology and Syphilology, and Ophthalmology of the University of Michigan Medical School, services of Dr. Udo J. Wile and Dr. George Slocum.

†Dr. Belote is Associate Professor in Dermatology and Syphilology, and Dr. Marshall is Instructor in Ophthalmology, respectively, University of Michigan Medical School, Ann Arbor, Michigan.



tests with these materials were not considered necessary.

On Case 2 patch tests were carried out using tincture of metaphen, mercurochrome

ly positive tests in a group of sixteen patients who apparently had normal skins. Of this small group test, women seemed a little more sensitive than men.

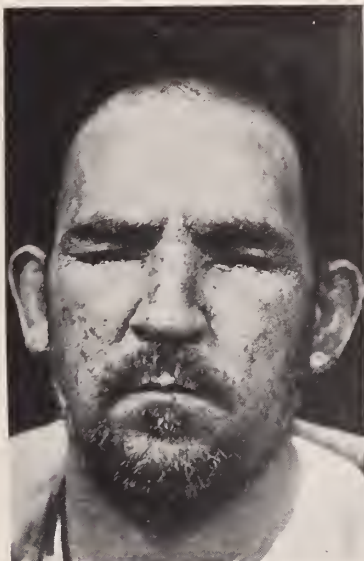


Fig. 1. Case 1. Showing marked edema and dermatitis in the region of the eyes and bridge of the nose.



Fig. 2. Result of patch tests in Case 1. Positive to metaphen tincture on patient's left and negative to acetone on the right arm.

(1 per cent), mercuric chloride (1:3000), atropine (1 per cent), and acetone (full strength). Atropine and acetone were negative, but all of the first three containing mercury were positive to some degree. Mercuric chloride and mercurochrome yielded mildly positive tests, while the test with tincture of metaphen reacted so severely that the patient complained very bitterly and refused to allow further experimentation. It resulted in a large bulla covering the entire area of the test.

Following this experience we decided to test a number of apparently normal skins to tincture of metaphen. Part of these tests were carried out following the usual procedure in patch tests, which consists of applying the substance to be tested tightly to the skin by means of adhesive plaster. The remainder of the tests were performed by painting the skin with tincture of metaphen, allowing to dry and covering with loose, dry gauze so as to more nearly approximate conditions as they exist postoperatively. In no case did the second procedure produce a dermatitis. Carried out as a true patch test according to the first procedure, however, we produced three strongly and three weak-

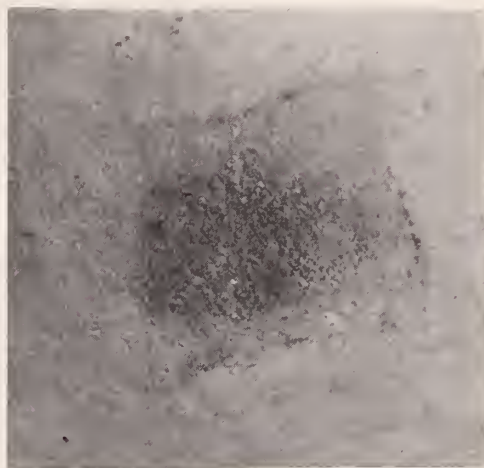


Fig. 3. Close-up of positive patch test to metaphen tincture on the back of Case 1.

### Comment

Where numerous local agents are employed in any case, as is commonly done with preoperative ophthalmological cases, it is exceedingly difficult to fix the blame for a subsequent dermatitis on any one drug. Atropine (1 per cent) is commonly used in these cases and we all know that this drug

is occasionally responsible for a dermatitis. Also in the routine ward preparation, the skin around the eyes is washed with a weak mercuric chloride solution and at the time

tincture was strongly positive and in the second case excessively so. We believe we have reasonable evidence that the dermatitis in these two cases was caused by tincture of



Fig. 4. Case 2. Showing marked edema and dermatitis limited to the side operated on.



Fig. 5. Result of patch tests on the arm of Case 2. Above mercurochrome (1 per cent) mildly positive; center tincture of metaphen, excessively positive; below atropine (1 per cent) and acetone (full strength) are negative.

of operation a single drop of mercurochrome (1 per cent) is instilled into the eye.

The patient represented by Case 1 was not tested with atropine, mercuric chloride or mercurochrome and hence except through inference we are not able to definitely exclude these substances. Case 2, however, was tested with these drugs and found negative to atropine. While she was mildly positive to the patch test with mercurochrome, it seems unlikely that the instillation of a single drop could spread widely enough to cause the dermatitis. Also the skin in the operative area is usually washed with mercuric chloride solution (1:3000) the morning of operation, but this substance is immediately washed off with sterile water and sterile pads applied. Since this does not remain in contact with the skin and since the second case reacted very mildly to this substance when tightly applied to the skin for twenty-four hours, it would seem unlikely that the dermatitis came from mercuric chloride.

The patch test in both cases to metaphen

metaphen. Since, however, Case 2 also reacted mildly to mercuric chloride and mercurochrome, it is also likely that these patients would have developed a similar dermatitis had these substances been used in sufficient concentration in the same location. We therefore incriminate tincture of metaphen, not for the drug itself, but merely as another carrier of mercury.

Although not a published observation, Dr. H. L. Keim<sup>1</sup> tells us that he has seen dermatitis of the foot develop following the application of tincture of metaphen in treating a mycelial infection.

### Conclusions

1. Two cases of dermatitis are presented which we believe due to tincture of metaphen.
2. When painted on the skin and allowed to dry, as ordinarily used in operative work, the drug seems relatively nonirritating.
3. When bound onto the normal skin after the fashion of the usual patch test,



tincture of metaphen is likely to prove irritating in 50 per cent of cases.

For permission to use this material, we wish to thank Dr. Udo J. Wile and Dr. George Slocum.

#### CARBON TETRACHLORIDE AS AN INDUSTRIAL HAZARD

Paul A. Davis, Akron, Ohio, points out that Wirtschaffer reported recently a number of cases in which a toxic amblyopia was present and stated that the examination of the visual fields may be a valuable procedure for the early detection of carbon tetrachloride intoxications. There have been several cases reported in which carbon tetrachloride produced fatty degeneration of the liver, kidneys and heart with a subsequent necrosis. The action of carbon tetrachloride is similar to that of chloroform except that it is more intense. This is due to the larger amount of hydrochloric acid liberated as it is broken down in the body. Carbon tetrachloride plus hydrogen plus oxygen plus the influences of the body produce four molecules of hydrochloric acid, plus the oxidation products of carbon, carbon monoxide, and intermediate oxidation products, the most poisonous of which is carbonyl chloride or phosgene. Alcohol seems to act as a catalytic agent for carbon tetrachloride and intensifies its action. A person who is under the influence of alcohol when exposed to carbon tetrachloride becomes disoriented and often becomes maniacal. It may be absorbed by the inhalation of its fumes and alimentary system absorption. Carbon tetrachloride is sometimes given in small doses as a medicament for hookworms and in a short time it is followed by a purge, which prevents much absorption. Also it may be absorbed by the skin and its appendages. Carbon tetrachloride extracts the fats from the skin and produces a dry condition, which favors absorption and also initiates a dry dermatitis, causing the skin of the hands to crack. This often produces avenues for secondary pyogenic infections. The condition can be corrected if the workmen will use oil of theobroma, petrolatum or a good grade of ointment of rosc water (nonvanishing cream) on the skin after having used carbon tetrachloride. The principal avenue of absorption is the respiratory system. The nausea and vomiting produced by exposure to carbon tetrachloride is due to a central nervous system reaction and not a local gastric one. If the concentration of the carbon tetrachloride is kept at a minimum and the circulation of air at a maximum, few symptoms are noticed. A concentration of 0.01 per cent and lower can be tolerated for long periods of time. However, continued exposure to carbon tetrachloride of low concentrations is not advocated, for slow absorption produces the chronic stage of the poisoning and the retrograde changes in the liver, kidneys and the hematogenic organs. Substitution products should be used in place of carbon tetrachloride in all processes in which the change is possible. The workers should be rotated so that one person has a chance to aerate completely and eliminate the products of carbon tetrachloride decomposition while the other is working. The condition that usually follows nausea and loss of appetite is acidosis, and this is manifested readily in those who perspire freely. An irritative dermatitis which becomes annoying develops in the folds of the body. (*Journal A. M. A.*, Sept. 29, 1934.)

#### Bibliography

1. Keim, H. L.: Personal communication.
2. Pascher, F., and Silverberg, M. G.: Hypersensitivity to mercurochrome shown by the patch test. *Arch. Derm. and Syphil.*, 27:408, (March) 1933.
3. Raiziss, G. W., and Severac, M.: A new organic mercury compound with powerful germicidal properties. *Jour. Lab. and Clin. Med.*, 9:71, (Nov.) 1923.
4. Scott, W. W., and Birklang, K. E.: The comparative value of metaphen in alcohol-acetone-aqueous solutions in the preoperative disinfection of the skin. *Ann. Surg.*, 93:587, 1931.

#### OBSTETRICS VERSUS MIDWIFERY: CHAIRMAN'S ADDRESS

JOSEPH B. DE LEE, Chicago, points out in his address that the dictionaries give the terms obstetrics and midwifery as synonyms, but he believes that the term midwifery should apply to the practice of caring for women during childbirth by the old blind, empirical methods, while the term obstetrics should connote the fact that to the wisdom gained by experience has been added all the knowledge supplied by recent scientific investigation. For 1,500 years after Christ, midwives and slave doctors had almost complete sway in the delivery chamber. The midwives pursued every device to retain their control and the doctors could learn nothing of normal delivery. The fact that they were helpless in obstructed labors, except for their destructive instruments, made their situation worse, because, as Smellie said, the women took great alarm when a man midwife was to be called, since they knew that then either the mother or the baby or both were lost. The invention of the obstetric forceps, about the beginning of the eighteenth century, gave the greatest impetus to the movement to have men attend women in labor, but until very recently the practice of normal obstetrics by physicians has been looked down on by the profession and by the public as well as by the midwives. Some of the old opprobrium still clings to the obstetrician and his work. The medical schools, in many universities, still rate obstetrics as a minor specialty, and even today students leave their campuses with a debased opinion of the science and art of obstetrics. Hospitals do not provide facilities for obstetrics that are the equal of those for surgery. The author has striven during all of his medical life to eradicate this low opinion of obstetrics and to place on equally high pedestals the three primary branches of medicine, obstetrics, medicine and surgery, all equally important, all equally dignified. It is therefore with great pain and some alarm that he noticed a trend in Britain and in spots of the Eastern seaboard, a reactionary trend, toward the state of midwifery. He discusses disturbances of pregnancy, labor, natural delivery and concludes by saying that there are not enough schools, teachers, materials or public and professional support to supply real obstetricians for 2,000,000 births each year. Fortunately the principles of the conduct of labor are not difficult to master. Nature is still on her job and, though perhaps somewhat destructive, she can do it better than unskilled human beings. Let doctors be taught the beauties of normal obstetrics, the principles of asepsis and the principles of intelligent expectancy, trusting much to nature. There will soon be a reduction of the national maternal mortality and morbidity. In the meantime the medical profession can hold the vision of its ideals and struggle to attain them, and it will attain them only through education—education of the medical schools, of the universities, of the doctors and of the public.—*Journal A. M. A.*, Aug. 4, 1934.

# THE JOURNAL

OF THE

## *Michigan State Medical Society*

---

### PUBLICATION COMMITTEE

J. EARL MCINTYRE, M.D., Chairman.....Lansing  
 A. S. BRUNK, M.D.....Detroit  
 HOWARD H. CUMMINGS, M.D.....Ann Arbor

---

### Editor

J. H. DEMPSTER, B.A., M.D.  
 5761 Stanton Avenue, Detroit, Michigan

---

### Business Manager

B. R. CORBUS, M.D.  
 2642 University Avenue, St. Paul, Minnesota, and  
 313 Metz Building, Grand Rapids, Michigan

---

MARCH, 1935

---

## EDITORIAL

### THE COMMON COLD

The common cold would be a comparatively harmless complaint were it not for its possible complications. The fact that it is often preliminary to influenza, pneumonia and sinus and middle ear and mastoid infections and what have you, makes it a very serious affair. For this reason we devote two rather lengthy papers to the subject by Dr. Perrin H. Long of Johns Hopkins Medical School which were presented at Battle Creek at the annual meeting of the Michigan State Medical Society.

Elsewhere in this number Doctor Long discusses the value of various prophylactic measures which have been used for the prevention of colds. His conclusions are very brief and decisive. We will not anticipate a reading of his paper by presenting them here. The method of examination of the prophylactic measures has been very truly scientific, consisting of experimentation and control. The common cold was dealt with at length in a paper in the December number of the JOURNAL. The two papers should be read together, since they constitute a monograph on a subject that has hitherto not received the attention from clinicians that its importance warrants. Unfortunately the common cold is a condition which has been treated too often by self-medication with remedies recommended by proprietary medicine vendors.

### TREATING TUBERCULOSIS

The modern treatment of tuberculosis may be epitomized in one word—rest. Of course there are other important factors such as nutrition, pure air, sunlight, but the greatest single factor is rest. Impaired tissues, no matter what portion of the body, are given the best chance for repair when put at rest. In the case of pulmonary tuberculosis it is not sufficient that the patient should be given bed rest, important as that is. The principle of rest must be extended to the damaged lung, even to the lesion itself. This is accomplished by "splinting" the lung as it were by surgical means; in the incipient cases by compression of the phrenic nerve that prevents for a time the movement of the diaphragm on the affected side. Collapse therapy whereby air is injected into the pleural cavity is often indicated whereby the lung is collapsed towards the mediastinum. The principle behind it all is the same—rest.

The technic of the operative treatment can be easily mastered by one who has surgical experience and often by those whose experience is limited to this single operation, provided, care and judgment be exercised. A knowledge of the disease and the willingness to devote one's time to the care of this class of patient is of course highly desirable.

---

### MASTOIDITIS

The x-rays constitute an important diagnostic aid in practically every condition which is characterized by a variation in density of the organs or tissues involved. The late Doctor Hickey was accustomed to emphasize the importance of radiographs well made and expressive of the finest detail. While the importance of technic cannot be overestimated, the importance of a knowledge of pathology from the viewpoint of variations in density, resulting from acute or chronic disease, is equally great. This fact places the roentgenologist in the position of consultant to the clinician or surgeon. Hence, the need of supplying him with the history of the patient's illness along with the request for an x-ray examination.

In a study made of x-ray findings and their correlation with the findings at operation in cases of mastoiditis, Rendich\* makes a plea for closer coöperation between roent-

---

\*The Mastoid Roentgenograph, R. A. Rendich, *Medical Times and Long Island Medical Journal*, January, 1935.



genologist and otologist. Frequently the roentgenologist's interpretation requires re-interpretation to the clinician. The latter, however, should understand that the x-ray report is based on visual appearance of any density variation from the normal. This is the roentgenologist's viewpoint. In case of acute mastoiditis the condition is subject to sudden changes, so that the roentgenologist's report does not hold good several days after the examination. It was found (Rendich) that in 92 per cent of cases, the radiographic examination was of distinct advantage in arriving at a decision before operation. Eight per cent of roentgenologists' reports for various reasons was misleading. The majority of the discrepancies occurred in patients under five years. This is to be expected inasmuch as the infant mastoid cells are rudimentary, and at times it is impossible to procure diagnostic films.

The operator should be, and doubtless is, guided by the condition of the patient clinically as well as by the roentgen findings before deciding upon surgical treatment.

### FOOD FADDIST

A speaker, Dr. T. B. Rice, bacteriologist who addressed a meeting of the Women's Auxiliary of the Wayne County Medical Society in January, caused some commotion (not among his immediate audience) for some alleged heterodox pronouncements on the subject of diet. He said a great deal that runs counter to advertising propaganda with which the laity are fed up by radio and by the various journals on housekeeping that go into the homes. The speaker received more than usual attention from the newspapers. In other words, his address was news. It was news that spinach was not the important article of diet that it is commonly held to be by the layman and particularly the laywoman. It was news that vitamins, while important, are overstressed and exploited by those with something to sell.

It is high time the food faddist receive a jolt. Professor Martin B. Rehffuss of Jefferson Medical College, in a recent address before the American Dietetic Association, is reported as saying, "Diet faddists have reached a point where they are a positive menace to the health of the community and an insult to the reasoning of intelligent men and women," and Professor Murphy of

Harvard (Nobel prize in medicine) declared, "Undoubtedly they (the new diet fads) form one of the most pernicious publicity schemes available because they are publicity schemes for someone or something."

Vitamins are necessary for health. It would be difficult, however, in a normal regimen such as that on which our ancestry subsisted since the beginning of life upon the planet to avoid them, since they are present in the most common articles of food. Sir Walter Fletcher, an English nutritional chemist, speaking of Vitamin D, known as calciferol, the only vitamin it has been possible to isolate in pure crystalline form, says "a single ounce of it would suffice to give a full daily ration for a million growing children."

### TRUSTING BRAINS

"Ramsay MacDonald tells England that the Empire should get ready for a boom year, that Great Britain is definitely on the way out of the depression. The remarkable thing about it is that business was able to recover without any help from any brain trust."

—*The Detroit Free Press*

Brain Trust: We have always felt it to be the nation's advantage to have men representing us who were more or less scholars in history, political science and economics and as many other departments of human knowledge as possible. In England the "brain trust" is right inside of the houses of parliament. Politics is a career and men qualify for it at Oxford and other universities in much the same way as in this country they qualify for medicine or law; of course there are a few exceptions in England, not many. It has been said that it is possible to obtain an expert opinion in the British House of Lords on any subject from shoeing horses to philosophy or chemistry. That is probably the reason they do not call on a brain trust outside of parliament.

### PRESERVE YOUR JOURNALS

This advice appears in many State Medical Journals at least once a year. The best way to preserve the JOURNAL is to have the twelve numbers of the year bound into a volume. The cost of binding is from two to four dollars, depending on the style of cover. A yearly index is supplied with the December number to facilitate ready reference.

Many letters are written to the secretary and to the editor asking information on various subjects. Both editor and secretary are pleased to answer any queries within their power. The writing and answering of letters necessarily causes some delay which would be obviated in many instances by referring to bound volumes of the JOURNAL. The February and the November numbers are particularly important, the former containing the minutes and proceedings of the annual meeting of the Council, and the latter the proceedings of the annual meeting of the Society with the verbatim report of the deliberations of the House of Delegates.

#### Five in a Hill

Awa back awhile when we lads on th' fairm  
Had oor lessons tae learn, in plantin' th' corn;  
Tae be carefu' an' savin' an' work wi' a will  
An' pit th' corn kernels just five i' a hill.

An' when we dug taties in th' fa' o' th' year,  
Wi' fingers nigh frozen, an' e'es wi' a tear,  
Oor faithers wid smile when th' bag we cud fill  
Wi' th' spuds that were grown, 'boot five i' a hill.

Bit we never gi'ed thocht tae carry th' stunt  
Awa frae th' fairmin', tae ony auld front,  
Bit th' Dionnes advanced far ayont oor auld mill  
An' raised some fine lassies, just five i' a hill.

What a mess we hae made in oor plowin' oop corn,  
Instead o' politicians—ill bred an' ill born.—  
Lord! gi' us mair Dionnes, tae raise an' tae till,  
Some guid politicians, 'boot five i' a hill.

WEELUM.

#### AGITATION FOR IMMEDIATE ACTION ON HEALTH INSURANCE

(*Journal of American Medical Association*)

A letter is apparently being circulated by the American Association for Labor Legislation asking those to whom it is addressed to send telegrams immediately to Secretary of Labor Frances Perkins and the President urging immediate action on the subject of health insurance. Apparently the propagandists are not content to await the report of the President's Committee on Economic Security, of its technical staff or of its various advisory boards, but desire, regardless of the economic situation of the country as a whole or of any other important factors that may be involved, to jam some sort of legislation through immediately. Physicians whose advice may be asked concerning this appeal on the part of the American Association for Labor Legislation may well inform their inquirers of the desirability of caution and consideration in the development of any new methods of medical practice. Haste and carelessness prompted by evangelistic methods for social legislation must inevitably lead to errors and result in harm to both the public and the medical profession. The experience of every foreign nation precipitated into a sickness insurance scheme is evidence of the unfortunate possibilities that are incurred in the precipitous adoption of revolutionary measures.

## A MOMENT OF MEDICAL HISTORY

J. H. D.

### THE X-RAYS

Perhaps there is no other diagnostic agent or device that has been so generally useful to the medical profession as the x-rays. This statement is made advisedly for there is no device or method which has not its limitations. The x-rays are indicated in disease conditions which are marked by variations in density from the normal. Their value, it may be further stated, depends upon the knowledge, skill and experience of the radiologist or roentgenologist (a name coined from that of the discoverer) in much the same way as the usefulness of a scalpel depends upon the knowledge and skill of the surgeon.

In these papers the writer has endeavored to describe the development of methods and devices, such as apparatus, that have aided in the evolution of modern medicine and surgery. So far as the x-rays are concerned, we have to consider both apparatus and method. The former is the result of the application of theoretical physics and chemistry; the latter is based upon clinical research. Referring again to the surgeon and the scalpel, the surgeon's knife is a simple implement; his skill is the result of study and practice. Mechanically x-ray apparatus is very complex. Those who devote their entire time to radiology, a comprehensive term including radiography and radiotherapy, feel that the skill required for the application of the rays is as great as that which produces a competent surgeon.

While the year of discovery of the x-rays is 1895, they have a long and interesting prehistory. None who is unacquainted with the discovery would think of associating x-rays with the air pump and high vacuum. The fact is the development of the air pump and pneumatic physics had to reach a high state of completeness before the tubes necessary for producing x-rays were possible. Perhaps there is no better illustration how a subject of purely theoretical physics, of no apparent utilitarian value, may turn out to be of the greatest service to mankind. The simple apparatus employed by Roent-



gen was the result of three centuries' development by many workers in physical science, including students of pneumatic physics and of electricity. We have Gilbert (1540-1603), who discovered magnetism and who was physician to Queen Elizabeth; Torricelli, whose name is associated with the "empty space" or vacuum; von Guericke, whose name is linked with the Magdeburg's hemispheres, which were pictured graphically in a tug-of-war between teams of horses set to pull apart the hemispheres of a sphere exhausted of air. Robert Boyle, the English pneumatic physicist, was instrumental in the development of the air pump and exhausted bell jar, taking up the work where von Guericke left off. Then, in the field of electricity we have Franklin, Galvani, Volta, Ampere, Ohm, Faraday, Henry, Plucker, Geissler, Hittorf, Hertz, Lenard, Crookes. Francis Hauksbee (died in 1713), an Englishman, interested himself in electricity and repeated many of the experiments of Gilbert and von Guericke. He built electric machines which were a vast improvement over the work of his predecessors. Geissler was a modest glass blower at the University of Bonn who attracted attention by the excellent quality of his work, which made the experimentation of his more erudite contemporaries and followers a success. His skill won for him the honorary degree of Ph.D., conferred upon him by the University of Bonn in recognition of his valuable assistance in those branches of physical research in which his products were used. Truly science is international in its scope.

The perfection of the air pump made possible the vacuum or near-vacuum tube. The earlier x-ray tubes contained a rarefied atmosphere of gas or air. The attempt to pass a current of electricity through the partially exhausted tube led to the discovery of cathode rays, which discovery was made by Sir William Crookes, an English physicist, by whom the rays were named.

Experimenting with Crookes tubes, which were a development from those made by Geissler, Hittorf and Lenard, Roentgen by a fortuitous accident discovered the x-rays. The Crookes tube with which Roentgen was working was closely covered with a coating of black paper opaque to ordinary light. While passing electric discharges through the evacuated tube, a small platinum-barium-cyanide screen was seen to fluoresce, which phenomenon indicated the presence of other

than ordinary light; namely, light that possessed the property of penetrating opaque material. Roentgen repeated the experiments to confirm the peculiar phenomenon. The discovery in October, 1895, was hailed with great acclaim by the press throughout the world. The nature of the peculiar light was not known at the time so it was designated by the algebraic symbol, x-rays, a name which caught popular fancy to such an extent that the rays will doubtlessly be so known in spite of later studies which have revealed their real nature.

Soon after the discovery, the "x-rays" were turned to diagnostic use in medicine. Within recent years they have also found an important place in experimental and industrial work. Through their aid chemistry and physics have advanced beyond the wildest dreams of the later Victorian scientist.

Unfortunately the dangerous nature of the x-rays was not discovered until much damage and loss of life eventually occurred among the earlier workers. The biological effect of x-rays has since received much attention by students so that a very important method of treatment known as radiotherapy has been developed, a subject that had better be left to those thoroughly trained in the use of x-rays. Perhaps there is no specialty in medicine that demands greater skill of the physician than these, still more or less mysterious, rays. They have been found to be destructive to embryonic tissue, a characteristic which renders them important in the treatment of malignant growths. In this respect the action on living tissue is similar to that of radium.

The first use to which they were put was the diagnosis of bone lesions, particularly fractures, for bone pathology had yet to be developed from a new viewpoint, namely that of density of structure. Studies were made soon after the discovery of the x-rays, principally by Professor W. B. Canon, on the alimentary tract of animals by means of the opaque meal of bismuth salts incorporated in some suitable medium. Canon's experimentation was carried out on cats and geese. The first use of opaque media in diagnosis of conditions affecting the alimentary tract in man began with the esophagus in which bismuth subnitrate mixed with food was used to determine the presence or absence of diverticuli. Credit goes to Williams of Boston. The first diagnostic work on the stomach was done by including the

contrast medium in a sausage casing as a container. The medium consisted of lead and mercury. The toxic nature of such a medium, it goes without saying, required encasement in a flexible covering. The difficulty of obtaining bismuth subnitrate in pure form in sufficient quantity and still nontoxic delayed somewhat extensive studies on the alimentary tract of the human. However, the insoluble salt of barium, barium-sulphate, was eventually found to possess all the qualities necessary for a perfect opaque or contrast medium for the examination of the gastrointestinal tract. Its use has enabled roentgenologists to study living visceral anatomy, including the position, peristalsis and other factors not known before. Not only is he able to study mechanical factors of normal digestion, the roentgenologist has been able to determine the nature and position of organic lesions with amazing exactness.

The principle of opaque medium has been carried beyond the gastrointestinal tract. It includes also the dye method<sup>†</sup> of examining the gallbladder, whereby a dye is given by mouth or by vein into the blood stream and excreted into the gallbladder. By this method it is possible to determine the gallbladder function or to ascertain with a fair degree of accuracy the presence or absence of gallstones. The dye has a sesquipedalian name, tetraiodophenolphthalein. Under the heading of opaque media might also be mentioned the method of outlining the kidney pelvis, ureters and bladder by means of dye, which is known by several trade names. The outlining of the kidney pelvis and ureters by solutions of high molecular density injected by means of ureteral catheters under cystoscopic direction has been in use for a number of years. (Since 1910.) The intravenous injection of a dye is of more recent date. The latter method has certain advantages; among them it constitutes a test of renal function as well as a method of determining possible anatomical anomalies. Lipiodol, an iodized oil, is used to bring into relief the bronchial tree or abscess cavity in the lung as well as to determine the patency of the fallopian tubes. A paste made of bismuth salts and petrolatum serves well in

outlining sinuses in the tissues of the body.

Air also serves as a contrast medium, particularly in the encephalogram. An operation once known as pneumoperitoneum, whereby air was introduced into the peritoneal cavity to bring the solid abdominal viscera into relief, was once the vogue but has to a large extent fallen into disuse.

The development of x-ray apparatus has gone on apace within the brief period of the discovery of about four decades. The interrupterless transformer and the hot cathode tube\* were perhaps the greatest contributions since 1895. Since then there have been numerous refinements, particularly in tubes and mechanism of control.

The fluorescent screen has been perfected so as to shorten very materially the exposure time in making roentgenograms. This has made possible the making of roentgenograms in a fraction of a second, important where visceral motion is a factor to be overcome, as well as safety to the patient, preventing overexposure, which is fraught with more or less danger in making examination of the head.

The fluoroscope is made of fluorescent screen, the same as that which led Roentgen to discover the peculiar rays. It has been used in radiography or radioscopy ever since and more particularly since the invention by Coolidge of the hot cathode tube which is capable of regulation to a constant current. The fluoroscope enables the operator to observe that kind of function which is manifest in movement such as the movements of respiration and gastric and intestinal peristalsis. It is convenient also in the visualization of radiopaque foreign bodies but it should not be relied upon for anatomical detail, which may be studied to advantage only in well made radiographs.

The development and improvement of x-ray apparatus would avail but little if there were not a concurrent improvement in the recording media. The situation is not unlike the relation of the evolution of the automobile to the concrete road. The first recording medium was of course the ordinary glass photographic plate with its light-sensitive emulsion. It seems a far call from the

<sup>†</sup>The dye method was devised by Graham and Cole and described by them in a paper entitled, "Visualization of the Gallbladder by Sodium Tetrabromphenolphthalein," which appeared in the *Journal of the American Medical Association*, in 1924.

\*The hot cathode is the invention of Dr. W. D. Coolidge, who announced it in the *American Journal of Roentgenology* of January, 1914, in the paper entitled, "A Powerful Roentgen Ray Tube with a Pure Electron Discharge." The radiator type of x-ray tube was first announced in a paper by Dr. Coolidge in the *American Journal of Roentgenology*, in June, 1919.



early plate to the highly sensitized, dupli-tized film of today with its double coated surface. The manufacturer of x-ray recording media has coöperated in the matter of x-ray diagnosis by the production of films capable of recording both density and contrast. Huge sums of money have been spent in the work of chemical experimentation, as a result of which we have films that satisfy the requirements as regards speed, quality and safety. The safety feature has been made possible in the use of a cellulose acetate, instead of a cellulose nitrate base, for the photo-sensitive emulsion.

The term *skiagraph*, now almost fallen into disuse, was once applied to an exposed and developed x-ray plate. The word is somewhat of a misnomer from its etymology *skia*, the Greek word for shadow, and *graphein*, to write. A shadow resembles a silhouette inasmuch as it presents a uniform surface showing an accurate outline depending upon the distance and angle of illumination. The justifiable use of the term *skiagraph* would include only those films made of some opaque medium such as barium sulphate or the various dyes used to bring the hollow viscera into relief. A radiograph on the other hand, shows variations in the record. In bones, for example, it is possible to show the bone architecture with as great detail as found on sectioning a dry specimen. This is less true, of course, regarding the soft structures.

During the past four decades, the age of the x-rays, there has accumulated a vast volume of literature on the subject not only in the domain of pure physics but in clinical radiography and radiotherapy as well. The x-rays have long ago filled their five-foot bookshelf. And the works on the subject measure up in quality with the written work of any other medical or surgical specialty. A notable feature in all x-ray literature is the fine quality of illustrations. Even the journals devoted to radiology are superior in the matter of both text and illustration. At each annual meeting of the National Associations the programs constitute in the main an appraisal of the year's progress in diagnosis and therapy.

Regarding roentgenology as a specialty, it might be said that it belongs to the category of general, rather than regional, in contradistinction to most specialties. It calls for all the knowledge and training that goes to make a well informed medical or surgical

consultant, and more. The roentgenologist should have a knowledge physics and even photographic processing, for, in spite of the fact that technicians may be hired, the roentgenologist should be a good technician and should understand thoroughly the special physics and chemistry underlying the technics of his specialty. There are so many pitfalls in the use of x-rays that it behooves the specialist to be "x-ray minded," which is hardly possible for one whose interests are spread over the field of medicine or surgery. Important especially is it that the matter of x-ray and radium therapy be administered by those qualified regarding the biological effects of the rays, precise dosage and the reaction of the lesion, whatever it is, to radiotherapy.

### UNFAIR COMPETITION

(*The Detroit Medical News*)

Medicine is being practiced by unauthorized persons and groups. Dispensaries, insurance companies, industrial plants, and even the hospitals have had complaints registered against them for unauthorized practice. That these practices on the part of hospitals have been established by custom, are a matter of usage, and have never been challenged before, is hardly a justification for the unfair competition which hospitals seem to be giving those doctors who are working on their staffs, and especially those who are not on the staff. Regarding the former, the hospital holds the viewpoint that the prestige of being a member of a hospital staff and therefore having a right to use the hospital for paying patients and the professional opportunities and experience given by the hospital, constitute a very real return. We presume the balance of the syllogism must be: Therefore, take care of all staff cases assigned to your service, and ask no questions.

This modern day, however, is a period of inquiry. Individual physicians must look into their own affairs and weigh every penny of income and expense—mostly expense—or they find themselves and their families devoid of bread. To the individual practitioner, the loss of income, whatever the reason, is just as important as an unbalanced budget seems to be to the board of trustees of a hospital.

Something must be done about unauthorized practice of medicine. We sincerely hope that the Wayne County Medical Society's Committee on the Practice of Medicine by Corporations will be able to settle its problems amicably and without recourse to law. Other communities have built up codes which have been mutually fair and satisfactory to all concerned. We trust this can be done in Detroit. We note the good work of our confreres in the Detroit legal profession, and congratulate them.

### GEOGRAPHIC DIET

"Are you Hungary?" asked the waiter.

"Yes, Siam," replied the customer.

"Then I'll Russia to the table, and Fiji Turkey."

"Not necessary," retorted the customer. "Just Sweden my Java; Denmark my bill; I'm in a Wales of a hurry."—Anon.



## The Editor's Easy Chair

### LITERATURE

The manner in which this word is commonly used has a tendency to make one shudder. We speak of literature describing some proprietary medicine, or as catalogues describing in detail the various automobiles, or iceless refrigerators, or what have you. We receive volumes of "literature" in the way of blotters and leaflets; the former are usually retained until they become unsightly in our endeavors to remove surplus ink, and the latter invariably find their way to the waste basket, preferring as we do to have our advertising matter presented decently and artistically on the fore and aft pages of our medical and lay magazines.

\* \* \*

Literature, Music and Art have constituted a triad that we like to think of as possessing a high degree of excellence with an emotional element that lifts us out of the humdrum of the daily routine. Each has an esthetic appeal. Literature in the true sense is more than the mere expression of thought; it is thought expressed in the most artistic way. One might take one of the masterpieces and paraphrase or abstract it in such way as to give expression to the author's thought and the resulting paraphrase would be anything but literature.

While an undergraduate, the writer attempted to study a voluminous work assigned as a text on the Practice of Medicine. The style was so cumbersome and monotonous that it amounted to boredom. This book was succeeded the following year by Osler's well known single volume on Practice, a book that was Osler's own work from cover to cover, when each successively revised edition was by himself. Result, reading was a pleasure. Osler was a master in the use of words. We have no recollection of that medical jargon that spoils otherwise valuable medical works. He possessed that altogether too rare faculty of making intensely interesting any subject on which he essayed to write, whether it were a work on

medicine, or medical history, or the interesting essays which have proved an inspiration to so many of his readers.

The editor confesses a weakness for scientific works, medical or other, written by English authors. Along with Osler might be mentioned Sir Clifford Allbutt, equally renowned for his contributions to medical literature, and here we use the word in its true sense. Sir Clifford Allbutt endeavored to teach English as well as medicine to his medical students; so important, in fact, did he consider clarity of expression, that he wrote a small book on the subject of Scientific English expressly for their benefit.

\* \* \*

Speaking of a nice choice of words, Montague, one time editor of the Manchester Guardian, wrote: "A writer or a good reader will do much the same; his mind will finger single words and caress them, adoring the mellow fullness or granular hardness of their several sounds, the balance, undulation or trailing fall of their syllables, or the core of sunlike splendour in the broad, warm, central vowel of such a word as 'auroral.' Each word's evocative value or virtue, its individual power of touching springs in the mind and of initiating visions, becomes a treasure to revel in.

"Besides this hold on affection a word may well have about it the glamorous prestige of high adventures in great company. Think of all that the plain word 'dust' calls to mind. 'Then shall the dust return to the earth as it was.' 'Dust hath closed Helen's eye.' 'All follow this and come to dust.' 'The way to dusty death.' So, to the lover of words, each word may be not a precious stone only, but one that has shone on Solomon's temple or in Cleopatra's hair. Out of these illustrious atoms all the freakish pinnacles and cupolas of the world's wit were made, all the glow and intensity of its eloquence and the sweet poignancy of song. All things in literature are born of them; into them all things will die, but the words themselves will remain, and each word is like some small parcel of earth that was once Cæsar's brain and may yet make the brain of the next Christ that comes. Storied and ancient, it still has the freshness of youth; it lies, shiningly new, at the hand of every boy or girl who opens eager eyes upon life; it is as ready to enter into new melodies



now as the single notes that were marshalled by Bach."

\* \* \*

Writers of the first rank have emphasized the value of a good working vocabulary. Words are to the author what fine tools are to the craftsman. If there is anything that makes Shakespeare the greatest poet in any language it is his versatility in the use of words, as one writer one time spoke of this wonderful faculty as "The word compelling power" of Shakespeare. The reader will readily recognize a number of the Shakespearean phrases quoted in the above paragraph.

Professor Weekly in a little book with a facetious title, "Cruelty to Words," emphasizes the importance also of sentence structure. Speaking of the fine literary craftsman, C. E. Montague, just quoted, he says, "he [Montague] had come to hate a bad sentence like a bad smell and to revel in a good one as he might in a rose." The great prose writer like the great poet, or musician, or artist, is born, not made. The ability to write clearly, logically, and grammatically, however, is within the power of everyone with normal intelligence who appreciates its importance and is willing to put forth the effort.

But we might go on indefinitely. However, let us not use the term "Literature" for anything but the best in prose and poetry. The term "prospectus" fills the role very satisfactorily for writing of the nature of propaganda proclaiming the merits of anything from automobiles to washing machines.

#### ENERGY CLAIMS FOR FOODS

The Committee on Foods reports that all foods except the simple mineral foods and water contain chemical energy available for use by the healthy body to support the many activities and life processes and incidentally to maintain temperature. This use of the term "energy" in defining the caloric energy value of foods should not be confused with the popular usage signifying the state of extreme well being, good health, vitality, strength, vigor or endurance. Food advertising should correctly inform the public of the energy values of foods in carefully chosen terms that may be properly interpreted. The distinction between the caloric and popular senses of the word "energy" must be recognized and observed. The terms "food value" or "nutritional value" should not be used synonymously with "food-energy value." The food or nutritional value of a food includes the vitamin, mineral, protein, fat, and other values. (Jour. A. M. A., November 10, 1934, p. 1452.)

#### C. T. EKELUND—SECRETARY-ELECT

##### An Autobiographical Sketch

On October 7, 1893, a circus train was wrecked in Saint Paul. For several hours tigers and elephants prowled the streets. That same afternoon I was born. The record showeth not whether I was born under the bed or in the closet, but I have had a wholesome respect for tigers and elephants ever since. I was very shy in my youth and notoriously afraid of girls. These two serious handicaps I have only recently begun to live down. Perhaps my wife and three daughters (no sons) have had something to do with it.

Up to the time I was twelve years old they called me a prodigy. I entered high school in the fall of my twelfth year. From then on they called me other and different things, but somehow, in due course of time, I got a B.S. and then an M.D. from the University of Minnesota. The M.D. was granted "in absentia"; at the time I was enjoying my favorite illness, sea-sickness, rocking in the bowels of a troop ship on the way to France. Parenthetically, I might remark that during my peregrinations I have been exposed to sea-sickness nine times and escaped only once. On that occasion I went to sleep in a boat moored quietly at Rotterdam and I awoke next morning in the mouth of the Thames, off Harwich.

To resume the chronology, I labored well, but perhaps not too wisely, in a Base Hospital in France until March, 1919, and followed that with a second rather amazing interlude of eighteen months with the American Red Cross Expedition to Poland. The memory of that period is now a rather confused nightmare out of which I can recall a diet consisting all too frequently of sardines and wild strawberries; the rest is a kaleidoscopic jumble made up of uniforms that clicked their heels, of refugees bloated with famine edema, of boyish soldiers, wretchedly clad in winter snows, of typhus fever and malaria, emergency surgery and more wounds of war and of cholera and of graves and crosses.

I recovered from this nightmare during a leisurely journey through Scandinavia, continued, after a sojourn in Paris, through Switzerland and Italy, and the interlude was concluded with the Christmas holidays back home with my family. I found an opportunity for graduate work waiting for me, too, and forthwith I became a Teaching Fellow in the Graduate School at Minnesota and Chief Resident in Medicine at the Minneapolis General Hospital. The year following I realized a cherished ambition to be Chief Resident in Surgery at the University Hospital and during these two years I recaptured a normal American medical point of view, forgetting much and learning more. Then came an opportunity which I grasped readily enough and which I have come to regard as one of the most fortunate choices I ever made. In Hibbing, Minnesota, the "Iron Ore Capital of the World," I spent the next three years, working with a group of sixteen doctors in contract practice. The level of practice in that group is exceptionally high, especially for contract practice, and I treasure greatly the experience gained and the friendships formed there. I would probably still be there were it not for the geographic remoteness of that city, albeit the social and cultural aspects of life there are as fine a flowering of American civilization as I have met anywhere, before or since. The chief reasons for seeking the further, greener pastures are probably best summarized by admitting that I have always been an individualist and coveted for myself a private practice and my own autonomy. With these motives my recently acquired wife and I started on a tour with a carefully planned itin-

erary, to find our future home. Our procedure was carefully thought out, we believed, and based upon sound criteria, and, to make a long story short, the journey ended in Michigan, in Pontiac. The criteria,



C. T. EKELUND, M.D.

Secretary of the Michigan State Medical Society, who will enter upon the active duties of office September 30, 1935.

and the statistical material of that journey will not be related here, but may be had upon request. I should have mentioned in passing that I was married in 1925 to the daughter of a man who, some years before, had signed my certificate of Medical Registration, as President of the Minnesota State Board of Medical Examiners, and I should hasten to add, also, that at the time I knew neither him nor his daughter. I have it on good authority, however, that the Old Gentleman looked up my grades before he gave his consent on that memorable day, when, with knocking knees and parched tongue, I awaited his pleasure in his office.

Dr. Dempster has insisted that I be not brief in this sketch, but he needn't have insisted so much; one's tongue can easily wag too much when talking about one's self. However, the remainder of my chronology is quickly told. During the first four years in Pontiac I prospered more than I had hoped; since then, along with most of my confrères, progress has been spelled with a different word, but still I cannot complain. There has been no dearth of patients or things to do for them. From the start I have found much pleasure in my professional associations and have worked with some zeal and a little satisfaction in the affairs of the County Society. Chairmanships of this committee and that and four times delegate to the Michigan State Medical Society has called for the expenditure of energy and effort, some of it misplaced, no doubt,

some otherwise. This year I am trying to make a good President activated by two simple principles: (a) that the prime function of organized medicine is the postgraduate education of its members, and (b) that in this day of social and economic change the "scientific method" with experimentation is not only justified but indicated, with organized medicine providing the leadership but with the closest understanding and coöperation of government and industry and social agencies.

I do not hold with those who see in a medical society an organization to which they must pay dues, but in the business of which they need never take part. I recognize full well that too often the deliberations of units of organized medicine are impotent and often ill-considered gestures, but if the history of organized medicine is ever written tersely, and with bold strokes, its true importance will stand revealed. If there is one point that I, as secretary-elect, may here be permitted to make, it is that the Society's business is eminently worthy and deserving of the first interest and serious thought of the ablest men in the profession and this I covet for organized medicine, to the end that the multiplying problems of the day may be solved with humanity and broad vision in keeping with the rich heritage of the profession.

#### EXPERIENCES WITH GONOCOCCUS FILTRATE (CORBUS-FERRY) AND OTHER FORMS OF INTRADERMAL THERAPY IN TREATMENT OF GONORRHEA

Gonococcus filtrate (Corbus-Ferry) intradermally is the only antigen of the several that Robert E. Cumming and Robert A. Burhans, Detroit, have used that seems to offer a specific aid in the treatment of gonorrheal infection and complications. No attempt has been made to explain the rationale of intradermal medication or to establish the part played by the skin in body immunity. They demonstrate that the filtrate can be used alone in the treatment of gonorrhea. It is their impression that gonococcus filtrate is most serviceable as an adjunct to mild local treatment. The filtrate is indicated in acute and chronic gonorrheal infections of men, women and children. It has been used freely in all types of complications and, in their opinion, has some virtue in amelioration, although other treatment, not so important in simple urethral involvement, is of prime necessity. The authors have not followed the recommendation of Corbus but have used the filtrate freely in all stages of the infection and complications. They have departed from the recommended dosage scheme by giving not more than 0.1 c.c. of filtrate (children should receive from 0.05 to 0.15 c.c. of filtrate), increasing weekly by from 0.05 to 0.2 c.c. (1/20-4/20), depending on the local skin, regional lymph gland, and systemic reactions as well as on the character of urethral discharge and the states of the infection. Complications are today, as they have always been, of greatest importance in gonorrhea; late and unexpected transmission of the disease, sterility in both sexes, and the determination of safety in marriage are questions peculiarly in the domain of the consulting urologist. The determination of cure in gonorrhea has always been a difficult problem. The authors believe that their use of gonococcus filtrate in large doses (from 0.1 c.c. to 0.4 c.c.) as a diagnostic or provocative agent to demonstrate dormant infection is a milestone in progress toward the ultimate cure of obstinate gonorrhea.—*Journal A. M. A.*, Jan. 19, 1935.



**POSTGRADUATE EDUCATION**

*The following courses will be given during 1935 in Detroit:*

Proctology	April 29, 30, May 1
Genito-urinary Diseases	May 2, 3 and 4
Gynecology, Obstetrics and Gynecological Pathology	May 6-10, inclusive
General Medicine	May 13-17, inclusive
Traumatic, Emergency and Minor Surgery	May 20-24, inclusive
Pediatrics	May 27, 28 and 29

*The following courses will be given during 1935 in Ann Arbor:*

Electrocardiography	April 1-6, inclusive
Ophthalmology and Otolaryngology	April 22-27, inclusive
Roentgenology	June 24-August 2
Diseases of Blood and Bloodforming Organs	From 2:00 to 4:30 p.m. each Thursday for eight weeks, beginning April 4
Surgery	From 3:00 to 5:00 p.m. each Thursday, for eight weeks, beginning March 28

---

The enthusiastic response to the teaching program given in Grand Rapids, Flint, and Battle Creek-Kalamazoo, jointly, in 1934, at which 796 doctors registered, warrants the continuation of this program, as well as an extension to other centers of the state. Accordingly, a postgraduate program will be conducted this autumn in:

Battle Creek-Kalamazoo, jointly  
 Grand Rapids  
 Flint  
 Bay City  
 Manistee, Cadillac, and Traverse City, jointly  
 Alpena, Petoskey, jointly

The arrangement of these programs is now practically completed and the outline of each will be available on application to The Department of Postgraduate Medicine, University Hospital, Ann Arbor, Michigan.

## DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

### ATTENTION ALL SECRETARIES!

The annual Conference of County Secretaries will be held at the Union in Ann Arbor at 12:30 P. M. on March 27, 1935. The Faculty of the Medical School will put on a special diagnostic clinic at 9:00 A. M. Secretaries attending this meeting may bill the State Society for railroad fare or its equivalent and hotel bill where it is necessary to stay over night in order to attend the clinic. The program will be sent to each Secretary at a later date.

### SPECIAL MEETING OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

During January the news from Washington indicated that the program of the proposed changes in the social order was moving rapidly. It was evident, too, that in this program of proposed changes medicine would have a vital interest. In view of these unusual activities the Board of Trustees felt it necessary that a special meeting of the House of Delegates be called in order that there might be an expression of the views of the representatives of the one hundred thousand doctors making up the American Medical Association, and that these views be so correlated that the officers and trustees might act in accordance with the expressed sentiment. The official call noted that the meeting was called for a consideration of the Social-Economic policies of the Association as related to pending and proposed legislation and sickness insurance.

The President, in a message to Congress early in January, said:

"I am not at this time recommending the adoption of so-called Health Insurance, although groups representing the medical profession are coöperating with the Federal Government in a further study of the subject, and definite progress is being made."

This was followed shortly (January 17) by a preliminary report of the President's Committee on Economic Security, wherein was indicated the Committee's partiality to a system of compulsory health insurance.

This report stated that the Committee was awaiting a report from the Medical Advisory Group, expected by March first. The second and final meeting of this Advisory Group has already taken place. The question might well be asked: To what purpose did this Group act? Indeed, to what purpose could it act in the study of this complicated subject in two short meetings?

Next came the President's request for the four billion dollar Relief Fund with the provision that certain of these monies are to be used for health purposes. It is in the administration of these monies that we are especially interested.

In addition there came before Congress the Wagner bill. Also there came out a lot of propaganda promoted by an organization known as the American Association for Social Security furthering a so-called Epstein bill. This is a bill proposed for State Legislatures, and, as you will later note, is branded by the House of Delegates as a vicious bill.

These various activities in the opinion of the Board of Trustees demanded a united action by the representatives of the profession. So much for the occasion for the call.

It is not to be expected that one hundred and fifty men, delegates from the component Societies of the American Medical Association, would look alike on the various matters which were presented to them, and much discussion in the executive session ensued. It was recognized that the events of the last month constituted a direct challenge to the profession, and an attempt was made to answer this challenge in as satisfactory a way as possible with the limited amount of information on hand.

The House very definitely would maintain the ten principles as laid down at the Cleveland meeting. It would point out some of the vicious tendencies as expressed in some of the bills now under consideration. It would reaffirm some of the principles of the ethics of medical practice under which we have so satisfactorily worked in the past.



It could not discuss some of the provisions which it might logically think would form a part of the Committee's report for these details were not at hand.

As discussion went on and the problem was attacked from many angles, various concrete opinions were developed and these referred to the Reference Committee. On this basis, the Reference Committee developed its report, which, modified at a later meeting, satisfactorily expresses the combined views of the delegates. This should serve as a guide to the profession of the country until such a time as developments demand a further consideration. It must be read by each member with great attentiveness.

### Report of Reference Committee

With the special interest you have in the problem before us, it may be assumed that you have already carefully read the report of the Reference Committee. Perhaps it is advisable to call your attention to some of the salient paragraphs.

1. Your Reference Committee, believing that regimentation of the medical profession and lay control of medical practice will be fatal to medical progress and inevitably lower the quality of medical service now available to the American people, condemns unreservedly all propaganda, legislation or political manipulation leading to these ends.

2. The House of Delegates of the American Medical Association reaffirms its opposition to all forms of compulsory sickness insurance whether administered by the Federal Government, the governments of the individual states or by any individual industry, community or similar body. It reaffirms, also, its encouragement to local medical organizations to establish plans for the provision of adequate medical service for all of the people, adjusted to present economic conditions, by voluntary budgeting to meet the costs of illness.

3. The Committee on Economic Security, appointed by the President of the United States, presented in a preliminary report to Congress, on January 17, eleven principles which that Committee considered fundamental to a proposed plan of compulsory health insurance. The House of Delegates is glad to recognize that some of the fundamental considerations for an adequate, reliable and safe medical service established by the medical profession through years of experience in medical practice are found by the Committee to be essential to its own plans. However, so many inconsistencies and incompatibilities are apparent in the report of the President's Committee on Economic Security thus far presented that many more facts and details are necessary for a proper consideration.

4. The House deprecates any provision whereby federal subsidies for medical services are administered and controlled by a lay bureau. It recognizes the desirability of adequate medical service for crippled children and for the preservation of child and maternal health, but protests those sections of the Wagner Bill which place in the Department of Labor the responsibility for the administration of

funds for these purposes. It condemns as pernicious that section of the Wagner Bill which creates a social insurance board without specification of the character of its personnel, to administer functions essentially medical in character and demanding technical knowledge not available to those without medical training. It condemns the so-called Epstein Bill as a vicious, dangerous and demoralizing measure which introduces such hazardous principles as multiple taxation, inordinate costs and extravagant administration.

5. The House of Delegates reiterates the fact that there is no model plan which is a cure-all for the social ills any more than there is a panacea for the physical ills that affect mankind, and calls attention to the many plans for medical service undergoing study and trial in various communities. The Bureau of Medical Economics has studied these plans and is now ready to advise medical societies in the creation and operation of such plans.

You are referred to the *Journal of the American Medical Association* for the complete report.

### A SOLDIER IN SCIENCE

"The sort of physician who will dominate the future is the one who never thinks he has done his duty, or even that he has accomplished anything worth while, until he has shown the victim how it was that he got sick, why it was that he got well, and how he can probably keep well."

He who wrote this died just a few weeks ago. He found a whole people ill for the lack of knowledge of a few facts. For these people he found the facts, and to the sick man of the Tropics he brought this knowledge. More than this he interested this sick man in his own salvation.

In Puerto Rico the man and the opportunity met as unexpectedly as at Michillimackinac another soldier-doctor met and matched his opportunities.

Bailey K. Ashford, a young medical officer, was a part of the invading brigade sent to Puerto Rico during the Spanish-American war. A violent devastating hurricane sent the pallid, weak, emaciated natives down from the mountains to seek food and shelter. The more seriously ill found refuge in the army hospital. His interest was stirred. He wanted to do something about it and he did, and in the doing he became internationally famous.

He was the first to find hook worm on American territory. He made the first mass attack against it and with this mass attack he set the pattern for mass attacks on this and similar infections for the world. No doctor of our time has to his immediate credit so many cured patients. By treatment, directly under his supervision, these

patients are to be counted in the thousands. The accomplishments in science which brought him international fame were not, however, limited to this work on hook worm. Cuba knew him and was grateful to him for his work in that country on malaria. Brazil knew him and was grateful to him for his work there on sleeping sickness (trypanosomiasis). The scientific world knew him first for his work on hook worm and then for his work on filariasis, and honors him especially for his work on the pathogenic yeasts and the resultant discovery of the probable cause of that strange disease, Tropical Sprue, the pernicious anemia of the tropics. His own government has given him the Distinguished Service Medal and England and Egypt have officially honored him. He was Editor in Chief of the Medical History of the World War. At his death he was professor of tropical medicine and mycology, in the School of Tropical Medicine inspired by him and built under his direction by Columbia University, on that island for whose people he opened a new world of health and hope.

Colonel Ashford tells the story of the Conquest of Puerto Rico for Science, in his book, "A Soldier in Science," published but a few weeks before he died. With a background of long experience and with the record of unusual accomplishment behind him, the closing paragraph of his book has an unusual significance.

"The doctor's mission from this time forward, as I see it, is not so much a question of relief of pain, of prevention of death, as it is a question of salvaging this man, this woman, this child, for one hundred per cent efficiency in the future."

I commend this book to you. It is an interesting and inspiring report of one of the most outstanding accomplishments of man through Science in our generation. Incidentally, if you were "Over There," you will get an extra bit of enjoyment as you live again, with him, some of your own experiences in the A. E. F.

### MR. MILBANK LOOKS AT THE PROBLEM

The garment of rugged individualism seems to fit the doctor even as snugly as it fitted the so-called Captains of Industry, now somewhat in disrepute. With centuries of tradition behind us, we, as a profession, protest change as vehemently as does the Church. At heart we are so self-contained

and super-loyal that any pressure brought from the outside looking toward a change is almost certain to be resented. Yet it may be that on further study of the subject of Medical Social Economics, we will be disposed to loosen the garment by our own efforts. It may be advisable that we break with some of the less essential of our traditions.

At any rate the problem before us must be studied intelligently with as few prejudices and as complete an understanding of the problem as is possible. This, of course, will include the views of those whom we have looked upon as advocates of a change in the pattern of medical practice. There is an opinion prevalent quite generally among the profession that dominant among the forces advocating such change in practice are the various foundations. To the Indiana State Medical Association\* we are indebted for this opportunity of placing before you the views of the president of one of the most prominent of these foundations. On invitation of the Society, Mr. Albert G. Milbank, president of the Fund which bears his name, appeared before the Conference of County Secretaries on January 27. Mr. Milbank spoke of the misunderstandings which have arisen and assumed regrettable proportions between the philanthropic foundations and the profession, and made a strong plea for coöperation between these foundations and organized medicine in an effort to solve the problem of payment for medical care. He summarizes the nature of the complaints which have been made against the Milbank Fund, most of which are familiar to you, and entered a vigorous denial that these charges have in fact any substantial foundation. Commenting on the inspiration which gave rise to the Fund and the tradition behind it, he said:

"It would be quite out of character if our Fund should seek to undermine those foundations of the practice of medicine which have been built up, tested and found good over the years, and to discredit the front line troops upon which everyone must rely to win the common fight for better health for the people of the United States."

Continuing he said:

"The world is in a turmoil of conflicting philosophies. . . . Today there is being waged a Titanic struggle between conflicting schools of thought, Socialism and Individualism. In their wide ramifications and implications they affect the daily lives, habits and welfare of the average person. . . . The

\*The full text of Mr. Milbank's address is published as a supplement to the *Journal of the Indiana State Medical Association* for February, 1935.



World War conscripted the youth of the country who were physically and mentally fit. This ideological war conscripts each and every one of us, old and young, rich and poor, strong and weak. No individual and no group can claim exemption."

"I submit that the problem of medical economics and its solution represents only one phase of a larger and more general economic, social and political controversy. That phase, dealing as it does with the subject of the health of the nation, is naturally of special interest and concern to the members of the medical profession. But it is well to keep in mind that you have not been singled out as an isolated group charged with a failure to measure up to your collective responsibilities. On the contrary, as individuals, you have set a standard of service which entitles you to high honors. To the extent to which, however, you are asked, collectively, to consider ways and means of promoting the health of the nation you are in precisely the same position as is every other professional group and every business enterprise upon which pressure is being brought to bear, in one way or another, to conduct their private affairs in a manner that will promote the public interest.

"Let us look at the proposals which have been submitted by the Fund's Staff in so far as they affect the medical profession. In so doing I will give my own understanding of these proposals and the reasons why they have seemed to me worthy of serious consideration.

"First: The proposals do not constitute a health insurance plan worked out in all of its administrative and financial details. Rather they are a series of principles on which any plan, if, as and when developed, should be based. You must have already noted the striking similarity between these principles advocated by members of our Staff and the principles recently adopted by the American Medical Association, the American Dental Association, and other professional groups.

"Second: The principles advocated by the Staff and by organized medicine place marked emphasis on maintaining a continuing personal relationship between the doctor and his patient and, therefore, on this all-important point the proposals are calculated to maintain the status quo.

"The administrative and financial aspects of the plan are quite as important as are the underlying principles. At best mistakes will be made. Some unanticipated evils will creep in. Human nature will continue to be human nature. But the answer to all this is that the ultimate goal is worth some risks if they are not too serious. Furthermore, potential new evils must be weighed not against Utopia but against existing conditions. Your leaders have voiced the general dissatisfaction with the inadequacy of the present methods of paying for medical care and with the quality of some of the medical care as given in free clinics. The advantages, both to those in need of medical care and to those who are equipped to meet that need, have seemed to me to outweigh the disadvantages *provided*—and this, I believe, goes to the very heart of the problem—provided, the doctors themselves become wholeheartedly determined to make the plan a success.

"Personally, I would have little faith in seeing achieved the full results hoped for without the cordial coöperation of the practicing physicians. Laws are not self-enforcing. To become effective they must have the support of public opinion—in this case medical opinion. Plans on paper are sterile unless vitalized by human energy. While it would be too much to expect unanimity in your profession I would hope that the predominating opinion may crystallize in favor of some plan for mutualizing

the costs of medical care that would meet the needs of that vast group of our people who are neither well-to-do nor wholly destitute and who cannot, as individuals, budget their medical costs but who as members of a group can do so, and would also make provision on a more satisfactory basis than at present for the medical care of the indigent sick."

"Third: There is no disagreement, so far as I am aware, on such other important points as, (1) Freedom of all competent practitioners who subscribe to necessary rules of procedure to engage in insurance practice; (2) Freedom of all persons to choose their physician or dentist from among all practitioners in the community who engage in insurance practice; (3) Freedom of insurance practitioners to accept or reject patients; (4) No interference by the insurance system with the private purchase of medical service by those persons who can afford it; (5) Separation of cash benefits from medical benefits; and (6) Professional control of professional personnel and procedures.

"With this brief summary of the proposals of the staff it must be clear that, instead of being conceived in a spirit of hostility to the medical profession, they are designedly intended to be positively and affirmatively helpful to the medical profession."

In commenting upon the possibility of health insurance coming as a result of state or federal legislation embodying the above principles, Mr. Milbank does not ignore the dangers that will have to be studied, appraised and guarded against. He said:

"There must be an avoidance of the evils of bureaucracy. There must be a freedom from political influence. There must be no repetition of the defects disclosed in the administration of the workmen's compensation laws. The spirit of self-reliance and self-respect among the insured group must be maintained. Malingering must be strictly dealt with and minimized. The risks of racketeering and chiseling should not be overlooked. All these are possible dangers than can only be appraised when a plan in all of its administrative and financial details has been worked out and submitted for critical study and analysis. But you should not wait until a plan has been completely worked out. If you do, you may be making the same mistake which I am told by my medical friends was made by the profession in respect to the workmen's compensation laws; you will be permitting others than the members of your profession to lay down the rules of the game. You will recall that the compensation laws were at first cash-benefit systems to which medical care was later tacked on. It has been difficult, I understand, to eliminate this fundamental weakness of the laws and to improve their medical provisions."

## LEGISLATIVE LOBBYING

Speaking in Minnesota during December, Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*, declared that proper representation of the physician in medicine and Congress should come from the states themselves and not from a lobby of the American Medical Association at Washington.

"Personally, I have always fought the idea of a so-called 'lobby' for the American Medical Association in Washington," declared Dr. Fishbein. "Lobbyists are in disrepute. They are defined as persons who attempt to wield undue influence and as such are undesirable. The American Medical Association cannot afford to indulge in that sort of thing.

"On the other hand, we do know what is going

on and we are represented at every hearing on bills that are of interest to the medical profession.

"When influence is to be brought to bear it should come from the states themselves, not from the American Medical Association. In comparison with you men in the congressman's district the American Medical Association carries not a particle of influence with Congress.

"The American Medical Association should be known for the great welfare institution that it is, not a lobby for 'medical trust.'"

From *The Wisconsin Medical Journal*, Feb., 1935.

#### MINUTES OF SPECIAL MEETING, EXECUTIVE COMMITTEE OF THE COUNCIL

The Executive Committee of the Council of the Michigan State Medical Society met in special session January 27 at 1:00 P. M. at the Olds Hotel, Lansing.

The meeting was called to order by the chairman. There were present, Chairman Julius Powers, T. F. Heavenrich, Henry Carstens, H. A. Luce, J. E. McIntyre, President Richard Smith and President-Elect Grover C. Penberthy.

The Secretary reported that there had been many complaints from rural districts in many parts of the state and particularly from Eaton, Grand Traverse-Leelanau and Marquette-Alger Counties in reference to the inadequacy of the FERA fees and particularly in reference to the recent cut in mileage. In addition, certain specific complaints concerning the failure of County Administrators to O. K. what apparently were legitimate bills. In view of these complaints and by instruction of the Council, the Secretary requested a meeting with the State Committee of the FERA.

Mr. William Haber, State Relief Administrator, has arranged a meeting for 10:00 o'clock on Tuesday morning, January 29. A request was made by the Secretary for the appointment of a Committee to meet with the State Committee. The Executive Committee directed that the following committee be appointed:

President Richard R. Smith, Chairman Julius Powers, Secretary Burton R. Corbus, Dr. E. F. Sladek of Traverse City and A. G. Sheets of Eaton Rapids.

Doctor Luce requested instructions for the delegates who are to attend the Special Meeting of the House of Delegates of the American Medical Association, called for February 15 at Chicago, for the consideration of the social and economic policies of the Association as relating to pending and proposed legislation. On motion of Carstens, seconded by McIntyre, the Executive Committee directed the delegates to use their own judgment. The Secretary and the President-Elect were directed to attend the House of Delegates meeting in Chicago.

#### Legislative Committee

At the January meeting of the Council, the Executive Committee was directed to call a joint meeting of the Legislative Committee so that the Legislative Committee might receive the action of the Council in regard to legislative policies and to discuss with them further legislative activities.

This order of business was now before the Committee and the Legislative Committee was asked to join the Executive Committee. Present of the Legislative Committee were Doctors Bradley, Chairman, Christian, Garipey and Hyland. With them came Doctors Sheets, Carr, Crum, McNamara, McAllister, Andrews, Greene, O'Meara, Councilor Perry and Ex-Presidents Moll and Robb. These men were, on motion, given the privilege of the floor.

Doctor Bradley reported on bills now before or which it is proposed to present to the legislature. Doctor Christian read a statement in regard to legislative policies past and present. A prolonged discussion ensued largely in reference to the employment of a professional lobbyist. It was pointed out by the Chairman that the Executive Committee was not in a position to alter in any way the action of the Council. That the Executive Committee's duty was to present these actions to the Legislative Committee and request the individual members of this Committee to state that they would be willing to abide by these instructions.

It was moved by Doctor Luce, that "The Council employ a lay secretary to act as an assistant to the medical secretary, provided that a proper man for the place could be found and that the salary could be satisfactorily adjusted to our finances." Moved by Luce, seconded by Carstens and carried. Following this it was moved, seconded and carried that the Chairman appoint a committee to consider the qualifications of candidates and such other matters as might properly come under the preceding motion. Chairman Powers appointed the following Committee: President-Elect Penberthy, Chairman; Councilors Henry Carstens, Paul Urmston, Thomas P. Treynor and Frederick A. Baker.

The meeting adjourned at 6:00 P. M.

(Signed) BURTON R. CORBUS, *Secretary*.

### COUNTY SOCIETIES

#### CLINTON COUNTY

At a recent annual meeting of the Clinton County Medical Society held at the Clinton Memorial Hospital the following officers were elected for the ensuing year:

President, Dr. D. H. MacPherson, Fowler, Michigan; Vice President, Dr. F. D. Richards, DeWitt, Michigan; Secretary-Treasurer, Dr. T. Y. Ho, M.D., St. Johns, Michigan (re-elected); Delegate to State Convention, Dr. Dean Hart, St. Johns, Michigan; Alternate, Dr. F. D. Richards, DeWitt, Michigan.

Following election of officers a brief outline of the Society's activities for the coming year was mapped out by Dr. MacPherson, the incoming president of the Society, which met with enthusiastic approval of all members.

#### DICKINSON-IRON COUNTY

On January 10, 1935, the Dickinson-Iron County Society met and elected the following officers for 1935: president, Dr. A. L. Haight, Crystal Falls; vice president, Dr. D. R. Smith, Iron Mountain; secretary, Dr. C. P. Drury, Iron Mountain. At this meeting plans were started for the annual meeting of the Upper Peninsula Medical Society at Iron Mountain next August. It was hoped that a special post-graduate conference might be used as the program for the annual meeting.

On February 10 the Dickinson-Iron County Society met for its second meeting of the year at the Milliman Hotel, Iron Mountain, Mich. After a short business meeting the society adjourned to enjoy the following program:

Dr. M. B. Beckett—"The Use of the Biologics furnished by the State Department of Health."

Dr. George Boyce—"The Development of the Sinuses."

Dr. W. H. Huron—"Female Sex Hormone Therapy."

CHARLES P. DRURY, *Secretary*.



**EATON COUNTY**

Thirty-three members and guests of the Eaton County Medical Society were present at the first regular meeting of the Society for the year. Dinner was served at the Carnes Tavern Hotel, Charlotte, Mich., at 6:30 p. m.

The president, Dr. Don Hargrave of Eaton Rapids, presided. Following introduction of guests from the Battle Creek Academy of Medicine, Barry County and the Ingham County Medical Societies, the meeting was turned over to the scientific program of the evening.

Dr. Carl Badgley, Professor of Orthopedic Surgery, University Hospital, Ann Arbor, gave a very beautiful and instructive address on "Posture (or Body Mechanics) and Flat Foot." According to Dr. Badgley there are three main body types so far as body is concerned. There is the normal type which the physician seldom sees, the thin type or Uncle Sam type and the thick or John Bull type. The thin type has a short intestine while the thick type has a long intestine. The thick type has a large liver; the thin type a small liver. The thin type a high basal metabolic rate and low blood pressure while the thick type has a low basal metabolic rate and a high blood pressure.

Due to the competition in athletics of today the athlete must have a proper posture. Dr. Badgley refers to Goldthwait as the outstanding authority on body mechanics. Goldthwait emphasizes the importance of the diaphragm to correct posture. Gravity plus normal muscle tone produces the normal posture. Posture begins with the erect stature. It begins in childhood. The child of one year has normally bowed legs; at two years he is knock-kneed and at four this disappears. As the child approaches four years the abdomen begins to become pendulous and a lordosis appears, but there is no thoracic curve as yet. A study at an older period revealed that at Harvard University 80 per cent of the entering men showed postural defects; 50 per cent at Yale showed scoliosis.

A normal posture is one in which a straight line will pass through the mastoid process, acromion process, greater trochanter, and external malleolus. This line should be ten degrees forward from the vertical according to Badgley. The chin is back, not up, the chest is up and the abdomen is flat, the gluteal muscles are in contraction.

Treatment of abnormal posture includes deep breathing exercises. Lying down and exercising the legs as if walking, standing against the wall and using the legs as if walking, lying on the back and putting a support under the dorsum with deep breathing exercises and contraction of the abdominal and gluteal muscles. The doctor next gave a discussion of flat feet.

A short business meeting with the Eaton County Emergency Relief Commission was held. A new program for schedule of fees was read by Mr. H. Marr Byington. The details causing dissatisfaction of the physicians were ironed out very nicely. The motion was made by Dr. C. D. Huber and supported by Dr. Bradley that the schedule as outlined be accepted. This was unanimously passed by the Society.

JOHN LAWThER, *Secretary*.

Officers for 1935:

President—Dr. D. V. Hargrave, Eaton Rapids, Michigan.

Vice President—Dr. H. A. Moyer, Charlotte, Michigan.

Secretary and Treasurer—Dr. John Lawther, Charlotte, Michigan.

**HOUGHTON COUNTY**

At the January meeting of the Houghton County Medical Society the election of officers resulted in the choice of the following: president, Dr. G. C. Stewart, Hancock; vice president, Dr. T. P. Wickliffe, Calumet, and secretary, Dr. W. T. S. Gregg of Calumet. At the meeting held February 1 at Houghton, the president's address on "Medical Insurance" was given by Dr. G. C. Stewart. An address on "Biologics—Their Preparation and Use," was presented by Dr. Beckett of the State Board of Health. A case of comminuted fracture of the tibia of an epileptic treated by the use of a Parham band, with illustrative x-ray films, was discussed by Dr. T. P. Wickliffe.

W. T. S. GREGG, *Secretary*.

**MONROE COUNTY**

Monroe County Medical Society has had a series of interesting meetings this season.

On November 15, 1934, Dr. Chester A. Doty, of Detroit, gave a talk on "Skin Cancer." His highly informative and well arranged discussion was illustrated by excellent photographs.

On December 20, Dr. Thomas L. Ramsey, director of the pathologic laboratory at St. Vincent's Hospital, Toledo, gave an excellent presentation of the subject, "Vaccine Therapy."

On January 17, 1935, Dr. A. W. Newitt, epidemiologist of the State Department of Health, spoke on "The Biologic Products Furnished by the State." All the members appreciated the comprehensiveness of this talk and the opportunity to hear the very latest in technic.

FLORENCE AMES, *Secretary*.

**MUSKEGON COUNTY**

The annual meeting of the Muskegon County Medical Society was held December 14, 1934, at the Muskegon County Sanatorium, where the society was given a complimentary dinner by Dr. Herbert Bartlett, Superintendent.

The officers elected for the ensuing year were: Dr. Harold Closz, president; Dr. C. M. Colignon, president-elect; Dr. Charles A. Teifer, secretary-treasurer; Dr. Roy Holmes, delegate; Dr. Frank Garber, Sr., alternate; Dr. George L. LeFevre, medico-legal advisor.

Dr. Max Stone, City Health Officer, reported that instead of various units taking care of the sick adults, the County will take care of these patients for a set fee. He gave the fee schedule, which covered major surgical patients, minor surgical patients and medical patients. This arrangement will be effective after January, 1935. This does not include contagious diseases, and their care. The superintendent of poor must approve all patients treated under this plan.

Dr. F. M. Boonstra and Robert Risk, Jr., were elected to membership in the society.

The retiring secretary, Dr. Frank Garber, Jr., gave his annual report, which was accepted by the society.

A communication from the State Commissioner of Health, Dr. Slemmons, was read. Dr. Slemmons offered the services of one of the members of his staff, to give a talk on "Indications, Limitations, and Technique of Administration of Biologics," which are distributed by the State Board of Health.

CHARLES A. TEIFER, *Secretary-Treasurer*.

Have you paid your 1935 dues?

## ST. CLAIR COUNTY

A regular meeting of Saint Clair County Medical Society was held Tuesday, February 5, 1935, at the Harrington Hotel, Port Huron, Michigan.

Supper was served to about twenty-five members and guests, after which the meeting was called to order by President Waters with twenty-seven members and three guests present. The meeting was called to order and the secretary read the minutes of the preceding meeting, which were approved as read. President Waters spoke of committee appointments and urged the members thereof to do the work expected of their committee. He then spoke of changes in the welfare arrangements. The secretary read the monthly letter from the State Society. Dr. Heavenrich, Councillor of the Seventh District, spoke briefly with regard to the September meeting at the Soo, of welfare work, of lobbyist at Lansing, of the new bill for medical registration and the proposed change in the afflicted child act. The secretary read a letter from the executive secretary of Wayne County Society and a letter from Dr. W. W. Ryerson, who is now a resident at San Antonio, Texas, because of poor health. The president introduced Dr. Heavenrich, who read a paper upon the subject, "Skin in Industry." The subject was well presented by one who has for many years been identified with industrial medical work. A thorough and interesting discussion followed, after which Dr. Heavenrich closed in the usual manner.

The president announced that Dr. Hugo Freund would address the Society on "Pneumonia" at the next meeting. He thanked Dr. Heavenrich for consenting to present a paper in the absence of Dr. Freund, who was to have been at this meeting.

GEORGE M. KESL, *Secretary-Treasurer.*

## WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, President, Kalamazoo.

MRS. F. M. DOYLE, Secretary, Kalamazoo.

The January, 1935, *News Letter*, edited by Mrs. Robert Fitzgerald, Press and Publicity Chairman of the Woman's Auxiliary to the American Medical Association, is most interesting and instructive. It contains a letter from Mrs. Robert Tomlinson, President of the Woman's Auxiliary to the American Medical Association, telling of her trip to Atlantic City, where plans were made for the national convention, which will be held there in June.

The Traymore Hotel, on the Board Walk, and not far from the huge Convention Hall where all the men's meetings, the scientific and commercial exhibits will be held, will be the Auxiliary headquarters.

Those who have never attended a National Auxiliary Convention will not want to miss this one. Quoting Mrs. Tomlinson:

"Dr. Carrington (Convention Chairman) and I went over many things and I am sure you will appreciate that our hope is to make the most of the many attractions that are Atlantic City's alone.

The piers, the Board Walk, the sea food, the sun and sea air combined with splendid hotels and a spirit of welcome that is unsurpassed, our Canadian visitors and our own pleasure at renewing old friendships will provide us with an opportunity to accomplish much, to play hard and to go home refreshed by our stay in our country's greatest seashore resort."

The *News Letter* also gives accounts of the activities of the various groups throughout the country.

The Auxiliary to the Nebraska State Medical Association has organized a bureau which arranges for physicians to address lay organizations. In Florida (Dade County), the Auxiliary has established a fund to aid widows and children of physicians. The Michigan State Auxiliary has made a special effort to be informed on legislation affecting the medical profession and to be prepared to discuss it before other organizations. The Georgia Auxiliary participated in welfare projects, such as preparation and dissemination of information on maternal welfare, cancer and tuberculosis. The Illinois Auxiliary urges attention to medical legislation. Presiding officers of nearly one hundred clubs attended a "public relations day" held by the St. Louis Medical Society Auxiliary; Dr. Joseph F. Bredeck, city health commissioner, made an address on "Public Health Nursing Needs." The Texas Auxiliaries are planning to assist the Mexican schools. The group at Walla Walla, Washington, is continuing sponsorship of a series of health broadcasts begun last year.

The Denver Company Medical Auxiliary held a benefit bridge and fashion show; approximately 800 tickets were sold; and accordingly a substantial contribution was made to the Medical Student Educational Fund. In the District of Columbia, the activities were chiefly devoted to social service projects, assisting the Red Cross, the Associated Charities and Emergency Hospital. The Racine County (Wisconsin) Auxiliary has been visiting the various county and city institutions with a view to interesting the members in these institutions. In Oregon the Auxiliary to the State Society is credited with a large share in the defeat of the healing arts amendment to the state constitution which would have nullified the basic science law. In a campaign that reached schools and women's organizations, the objective was dissemination of educational material concerning the issues involved.

Books recommended by the Iowa State Auxiliary pertaining to the medical profession, which would be suitable for study by auxiliary groups or for review before local lay organizations are: *Yellow Jacket*, life of Walter Reed; *Vitality*, by Boris Sokoloff, M.D.; *The Case for Sterilization*, by Leon F. Whitney; *How the Mind Works*, by Cyril Burt; Ernest Jones, Emmanuel Miller and William Moodie; *Life of Sir Robert Jones*, by Frederick Watson, and of special interest to all orthopedic physicians; *The Great Doctors*, by Dr. H. E. Sigerist; *The Little Doctor*, by F. G. Layton, a novel depicting the life of a panel doctor in the poorest districts of an English manufacturing town; *What We Are and Why*, by Lawrence H. Mayer, M.D.; *More Power to You*, by Walter B. Pitkin; *Persons One and Three*, by Shepherd Irving Franz, a study in multiple personalities. These books are either written by doctors or are about them.

Every Auxiliary member is urged to read the *Bulletin*, her state periodical, and *Hygeia*. A real acquaintance with *Hygeia*



will enable us to recommend it more sincerely than ever to our friends.

Members of the Auxiliary who are interested in P. T. A. Summer Round-up work, please contact your local or State Public Relations Chairman for recommendations from the National Public Relations Committee.

MRS. LLOYD C. HARVIE,  
*State Press Chairman.*

### Bay County

The Woman's Auxiliary to the Bay County Medical Society held its first meeting of the new year on Wednesday, January 30, 1935. Twenty members met at the Duchess Tea Room for dinner at 6:30 o'clock. After a short business session, Mr. Louis Harrison, city chemist, gave a talk on water conditions in the Saginaw Valley, and Miss Marian Moore read articles from the State Medical Journal.

(MRS. E. C.) JOSEPHINE S. MILLER.

### Jackson County

The January meeting of the Jackson County Auxiliary was held at the home of Mrs. J. H. Myers, 135 Grovedale Ave., on Tuesday, January 15. Dinner was served to thirty members of the Auxiliary. Mrs. Ennis Corley was chairman of arrangements assisted by Mrs. Horatio A. Brown, Mrs. Earl Thayer, Mrs. Randall Cooley, Mrs. L. J. Harris and Mrs. Don Kudner. Mrs. M. N. Stewart, vice president, presided at the business session. Reports were given from the various committees and correspondence was read from the Wayne County Society and the State President. The State President urged all members to read the JOURNAL.

Dr. Philip Riley, a local physician, gave a very interesting and enlightening talk on "Medical Education." Dr. Riley is a member of the State Legislative Committee.

The February meeting was announced as being a "Young Artists Recital."

(MRS. FRANK) PAULINE VAN SCHOICK.

### Kalamazoo County

Christmas gifts, beautifully wrapped, were presented to thirty-five old people and shut-ins by the Kalamazoo County Auxiliary.

Miniature evergreen trees were placed on each tray for all patients in our two hospitals, Bronson and Borgess, on Christmas Day.

A complete layette, including a lovely mattress and pad, was made by our Auxiliary and presented to a needy prospective mother.

Thirty-three members of the Kalamazoo Auxiliary enjoyed a delightful co-operative supper on January 15, at the home of Mrs. Rush McNair. A social hour followed a short business meeting.

(MRS. C. B.) CORA FULKERSON.

### Wayne County

The Woman's Auxiliary to the Wayne County Medical Society held its regular monthly meeting in the Grand Ballroom of the Book Cadillac Hotel, January 11, 1935, at 2 P. M. Preceding the meeting there was a luncheon in honor of the speaker of the day, Dr. Thurman B. Rice of the Indiana State Medical Association, Indianapolis. His lecture was most entertaining and unusual. He asserted that people, generally, give so much attention to the details of living that little time and strength are left to enjoy the real fullness of life. "Live simply and sensibly," Dr. Rice advised, "with less apprehension as to the span of one's years."

At the business meeting following the lecture, Mrs. Edward G. Minor reported that the Public Relations Committee, of which she is chairman, had printed and mailed to federated clubs in the county 235 letters inviting the general public to attend the series of three lectures which her committee is sponsoring.

Mrs. H. Wellington Yates, chairman of the Legislative Committee, read an article from the *American Medical Association Journal* emphasizing the need for immediate action on the health insurance problem.

Mrs. Claire L. Straith, chairman of the Membership Committee, outlined a drive for membership and reported three new members.

On January 26, Mrs. John A. Freese and her Ways and Means Committee arranged a thoroughly delightful social evening at the home of the Wayne County Medical Society. An Oriental supper was served from six to seven, its excellence putting everyone in a happy frame of mind for the splendid program of the evening. After music by Mr. Ernest Minchilla, an accordion artist, moving pictures of the members taken last June at Greenfield Village and Dearborn Inn were exhibited.

A one act play "Their Anniversary" was skillfully presented by the Paul Hickey Players under the direction of Treasa Way Merrill. Those taking part in the play were Mrs. Harold F. Sawyer, Mrs. H. G. Nauss, Mr. Cecil Matthews, Mr. Melville Hawk and Mrs. George E. McCreedy. Daughters of members, in costume, assisted as hostesses.

The February meeting of the auxiliary was held on the eighth in the Crystal Ballroom of the Book Cadillac Hotel. Preceding the meeting, Dr. F. L. Rector, speaker of the day, was honored by a luncheon to which the auxiliary members and council of the Wayne County Medical Society were invited. Dr. Rector is field representative of the American Society for the Control of Cancer. His lecture was illustrated with slides and indicated the need for education of the general public in this particular branch of medicine. Dr. Rector stated that cancer has so increased in the last ten years that it now ranks second in the mortality rate of diseases.

Mrs. Straith presented the names of four new members—and plans were discussed for the next two meetings—A Valentine Tea on February 14 and a lecture by Dr. Morris Fishbein, editor of the *American Medical Association Journal* on March 8, at 2 P. M. in the Crystal Ball Room of the Book-Cadillac Hotel.

Mrs. Clifford B. Loranger and her committee have done splendid work with both the magazine *Hygeia* and the book for children "Healthy Land." They report fifty-two sales of the latter and six new subscriptions for *Hygeia*. At each of the lectures arranged by the Public Relations Committee, an interesting exhibit has been on display. A *Hygeia* booth was arranged in connection with the Child Health Institute held in January.

(MRS. FRED'K T.) FLOY T. MUNSON.

## MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner  
LANSING, MICHIGAN

### Nutritional Project in Operation

To aid in checking an increase in scurvy and other dietary deficiency diseases among infants and young children, and to assist in making necessary medical care available for needy prospective mothers, a special nutrition project was undertaken by the State Emergency Welfare Relief Commission with the coöperation of the Children's Fund of Michigan and the Michigan Department of Health. Work was started on January 14, 1935, to continue for a period of six months. A public health nurse was added to the staff of the Commission to have general supervision of the project, to be aided by the nursing directors of the Children's Fund and the State Health Department.

The work was begun at the suggestion of Dr. Thomas Cooley of Detroit, President of the American Academy of Pediatrics. Dr. Cooley called the attention of the State Health Department to the increase in scurvy among infants in Detroit, and asked whether something could be done. A conference between representatives of the Department, officials of the Children's Fund and Dr. Cooley brought out the fact that field workers of the two organizations had reported a need among prospective mothers and young children of more adequate diets and of medical supervision. As a result of this conference, a plan was worked out and submitted by Dr. Slemons to the State Relief Administrator with the request that funds be allotted to carry it out. This request was granted.

A survey of counties showed that in thirty-five the public health nursing service was inadequate to carry on the intensive work necessary. Nurses were therefore assigned to these counties, a total of forty nurses to the thirty-six counties, including two supervisors.

The plan of work is based on home calls on families on relief or near the borderline in which there are prospective mothers or young children. The prospective mother is given suggestions on how to spend the available food money to the best advantage. The nurse also acquaints the mother with the local channels for securing necessary medical care, and works with the physician in home supervision of his cases. By advising and helping in the preparation for home delivery, the nurse is often able to save the expense of hospital delivery.

In families with infants, especial attention is paid to dietary supervision to guard against scurvy and rickets. The need for orange juice, lemon juice, or tomato juice and the value of cod liver oil and similar foods is not generally understood by these mothers. The nurse makes sure that preschool children in the families are receiving the necessary protective foods to assure proper development. She also arranges with the local agencies in cases needing emergency medical or surgical care.

The Michigan Branch of the Academy of Pediatrics is acting in an advisory capacity in the carrying on of this project as it applies to infants and preschool children, members acting on a district basis as consultants to work with the county medical societies and the nurses.

### Streptococcic Sore Throat in Bronson

Some months ago there occurred in Petersburg a rather extensive outbreak of streptococcic sore throat. This was referred to in the November, 1934, issue of the JOURNAL. Recently another milk-borne outbreak of streptococcic sore throat has occurred, this time in Bronson.

This outbreak had approximately twenty-five cases with one death. Several cows in the herd supplying the milk in question were found to have mastitis. An encapsulated organism corresponding in every way to the streptococcus epidemicus was isolated from the milk. This organism is of human origin. The organism was not recovered from the throats of patients, but there seems to be abundant evidence on which to base the conclusion that the outbreak was milk-borne and the cause the hemolytic streptococcus epidemicus. The milk was not pasteurized.

The causative organism in the Petersburg epidemic was a hemolytic streptococcus but not the encapsulated organism usually designated as the epidemicus.

Clinically the cases in the two outbreaks were different.

### Cancer Survey

A survey to determine the prevalence of cancer in rural areas in Michigan is being undertaken by the Michigan Department of Health, under a grant from the United States Public Health Service. The counties to be included in the survey are those having full-time county or district health departments. Dr. Harold Kessler, who has been in practice in Alpena, joined the staff of the department January 28 to carry on the work.

A cancer survey has just been completed in the hospitals of Michigan by Dr. F. L. Rector, Field Representative of the American Society for the Control of Cancer. The program undertaken by the State Department of Health follows up this survey, extending it to include the practicing physicians. The plan of work decided upon after consultation with Dr. Rector and the Cancer Committee of the Michigan State Medical Society, involves visits to physicians to ascertain the number of cases of cancer known to them, age and sex distribution, the location of the lesion, type, etc.

Michigan had a total of 4,890 cancer deaths in 1933. On the generally accepted basis of three cases to each death, there are estimated to be approximately 15,000 cases in the State. The new survey will be the first step in determining the exact situation. The death rate from cancer in 1933 was 97.0, exceeded only by that from heart disease.

### Quarantine Violation

Violation of a diphtheria quarantine drew jail sentences recently in Shiawassee County.

The local health officer reported persistent violation of the quarantine imposed on the family of a diphtheria carrier. Repeated warnings had failed to impress them with the seriousness of the health officer's instructions, and finally he appealed to the State Health Department.

Investigation resulted in the signing of a complaint by the health officer and a jail sentence of fifteen days for the son.

This apparently was not sufficient. A man friend of the daughter of the family, bringing her home from a nearby city, saw the quarantine sign on the house but went in, nevertheless, and spent several hours. Tracing the caller through his car license number furnished by the health officer was a simple matter, and both he and the daughter were arrested and fined \$25.00 each, plus costs of \$10.30. Failing to pay the fine, both were sent to jail for thirty days.



### Talks at County Societies

The offer of the State Health Commissioner to send to any County Medical Society a physician from the Bureau of Communicable Diseases and Rural Hygiene to discuss the biologic products distributed by the Department has already resulted in fifteen such talks. Several more are scheduled and invitations are still coming in. The County Societies already visited are Macomb, St. Clair, Monroe, Lenawee, Washtenaw, Manistee, Newaygo, Livingston, Tri-County (Cadillac), Chippewa, Luce, Houghton, Dickinson-Iron, Delta and Menominee. In addition, a meeting was held in Lansing by the Sparrow Hospital Staff at which many Ingham County physicians were present.

## OBITUARY

### Dr. Edmund A. Christian

Dr. Edmund A. Christian of Pontiac died on February the fifth at the age of seventy-eight years. Dr. Christian had become connected with the State Hospital in Pontiac in 1882 immediately after his graduation at the University of Michigan and had been



DR. EDMUND A. CHRISTIAN

connected with the institution up to the time of his death. He became superintendent of the hospital in 1894, retiring in 1932, when the event was observed by a complimentary dinner in Detroit on September 7, 1932. A report of this dinner will be found in the MICHIGAN STATE MEDICAL JOURNAL, Volume 31, page 675. Dr. Christian is survived by his widow and three daughters, Mrs. Robert White, and Mrs. John Clark, both of Pontiac, and Mrs. John Pendergast, whose home is in California. Among the professional organizations with which he was affiliated were the Oakland County Medical Society, Michigan State Medical Society and the American Medical Association.

### Dr. W. R. Stringham

Dr. W. R. Stringham of Cheboygan died in the Lockwood Hospital, Petoskey, January thirty-first, at the age of seventy-six. He had worked at his practice up to within three or four days of his death. Dr. Stringham was born in St. Clair County in 1858. He was the youngest of a family of six. After a high school course at Romeo and a period of teaching public school, he entered the Detroit College of Medicine where he was graduated in 1884. Later he qualified and became a registered pharmacist. Dr. Stringham began practice in North Branch but soon afterward located in Cheboygan County. From there he went north to the copper country, where he engaged in practice with mining companies. He returned to Cheboygan in 1907, where he practised up to the time of his last illness. Dr. Stringham in 1886 married Miss Ida Pattison, who survives him. He is also survived by one son, Dr. James R. Stringham of Cheboygan, and one daughter, Miss Margaret, at home. He was a member of his County Medical Society, the Michigan State Medical Society and the Northern Michigan Medical Society.

## COMMUNICATIONS

### PRE-NATAL AND CHILD HEALTH AND NUTRITION

To the Editor of the Journal of the Michigan State Medical Society:

I should be glad if you could find an appropriate place in the JOURNAL for the following communication.

THOMAS B. COOLEY.

Detroit, January 28, 1935.

Inasmuch as the State Department of Health and the pediatricians of the State have been impressed with the probability that children, especially in the ante-natal period and the first years of life, may suffer serious damage during the depression because of parental ignorance of their special needs; and as it has been possible through the Federal Relief Commission to arrange for an allocation of funds for a campaign to forestall such effects, the Child Health Division of the State Health Department, working with the Michigan branch of the American Academy of Pediatrics, has planned a special educational service in pre-natal and child health and nutrition, to be carried on for the next few months by public health nurses and nutritionists in a number of counties in the State. For various reasons it is not possible to cover the whole State, and the selection of counties has been on the basis of the probability of being able to do effective work, and of the need, as some of the counties already have efficient nursing service. In some districts this will mean a re-instatement of a service formerly enjoyed, but suspended for lack of funds.

The campaign is intended to be purely educational, and while it will not be limited strictly to the indigent, it should not only not interfere with any doctor's practice, but should be a definite stimulus to practice, as an important part of the nurses' service is to see that children are taken to their doctors for needed care.

It would have been desirable to present this plan to the various county societies before its inauguration, but this was not feasible because of the apparent need of starting work as soon as possible after the appropriation was granted. Efforts will be made, however, to keep the local profession in-

formed as to what is being done through regional conferences between nurses and nutrition workers and interested physicians and laymen. The plan contemplates no medical activity beyond that of local practitioners, except that the Health Department and the Academy of Pediatrics hope to arrange a scheme for pediatric consultation when the local physician desires it.

The general management of the project will be under the direction of the Child Health Division of the State Health Department. It is hoped that it will meet with the sympathetic interest and cooperation of practitioners in the counties involved.

The following is a list of the counties, as they have been grouped for facility in administering the work.

Keweenaw, Houghton, Gogebic, Iron, Dickinson, Alger, Delta, and Chippewa.

Leelanau, Benzie, Manistee, Oceana, Mason, and Muskegon.

Bay, Huron, Sanilac, St. Clair, Lapeer, and Macomb.

Montcalm, Gratiot, Ionia, Clinton, and Livingston.

Calhoun, Jackson, Berrien, Cass, St. Joseph, Branch, Lenawee, and Monroe.

LILLIAN R. SMITH, M.D.  
Bureau of Child Hygiene  
State Department of Health

BERNARD W. CAREY  
Chairman for Michigan  
American Academy of Pediatrics

## GENERAL NEWS AND ANNOUNCEMENTS

A very important meeting of the House of Delegates of the American Medical Association was held on the fifteenth as announced. A digest of the proceedings will appear in the April number of this JOURNAL.

\* \* \*

Bill H. ninety-two is introduced at the present session of the Michigan legislature to amend the Workingmen's Compensation Act to make compensable "all disabilities or death suffered by an employe as a result of occupational injury or disease."

\* \* \*

The annual joint meeting of the Wayne County Medical Society with the Detroit Bar Association was held on February 25. Addresses were made by George E. Brand, LL.B., president of the Detroit Bar Association, and Dr. Louis J. Garipey, chairman of the Committee on Policy of the Wayne County Medical Society.

\* \* \*

The thirty-first annual Congress on Medical Education, Hospitals and Licensure met in Chicago on February 18 and 19. Among those present from Michigan were: Drs. J. D. Bruce and John Sundwall, Ann Arbor; B. A. Shepard, Kalamazoo; Burton R. Corbus, Grand Rapids; W. H. McCracken, Detroit; J. E. McIntyre, Lansing; Bruce Douglas and J. H. Dempster, Detroit.

Rarely does a Medical Society have the opportunity of honoring a centenarian among its own members and so it is of outstanding importance that the Muskegon County Medical Society on February 22 will entertain one of its own members, Dr. John Stoddard, who on this date reaches his hundredth year. Doctor Stoddard is the oldest alumnus of the University of Michigan and of Albion College and representatives from these two institutions will meet with the Society in doing honor to their guest.

\* \* \*

Dr. Ferris N. Smith of Grand Rapids has just returned from London, England, where he read the opening paper at the meeting of the Royal Society of Medicine on February 1. He was invited to demonstrate the surgical procedure upon which his paper entitled "The Management of Chronic Sinus Disease" was based, and prior to the meeting operated at St. Bartholomews Hospital. A large number of the leading specialists in London witnessed one or more of these operations and participated in the discussion of the paper.

\* \* \*

The Wayne County Medical Society, Detroit Tuberculosis Sanatorium and Detroit Department of Health are offering Post-Graduate Conferences in the auditorium of the Herman Kiefer Hospital, Detroit, as follows: *March 5*, 10 a. m., Scarlet Fever; 11 a. m., Tuberculosis (Diagnosis and Significance of Tuberculosis in Childhood.) *March 12*, 10 a. m., Diphtheria; 11 a. m., Tuberculosis (Diagnosis and Significance of Tuberculosis in the Adult.) *March 19*, 10 a. m., Poliomyelitis; 11 a. m., Tuberculosis (Differential Diagnosis of Chest Diseases). *March 26*, 10 a. m., Pertussis; 11 a. m., Tuberculosis (Case Finding Methods and the Private Practitioner in the Field of Tuberculosis Prevention). These conferences will be presented by Dr. B. U. Estabrook and associates in Acute Communicable Disease and Dr. Bruce H. Douglas and associates in Tuberculosis.

\* \* \*

The *Annals of Medical History* published by Paul B. Hoeber, Inc., is a magazine devoted exclusively to medical history. It carries no advertising. Thus the expenses of publication must be defrayed entirely by subscriptions. Printed on paper of the best quality, the typographical appearance is equal to that of the best periodicals in the world. In an editorial in the January number the editor hints that unless there is a material increase in the number of subscribers, "The Annals is faced with the unpleasant possibility that it may have to suspend publication, at any rate until the dawn of better times." It would be indeed a misfortune if a magazine devoted to the higher and more esthetic and idealist phases of medicine should have to die for lack of support. The subscription is ten dollars a year. The magazine appears bi-monthly. We are making haste to forward our subscription in hope that the life of the *Annals of Medical History* may be indefinitely prolonged, which will surely be the case if our example is emulated by a sufficient number of the readers of the MICHIGAN STATE MEDICAL JOURNAL.

\* \* \*

*Correction*—The name of Leland S. Evans was inadvertently included in the list of doctors printed in the January number of this JOURNAL, page fifty.



# THE JOURNAL

OF THE

*Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOL. 34

APRIL, 1935

No. 4

## HEREDITY AND ENVIRONMENT IN RELATION TO THE HANDICAPPED\*

Lecture I. The Origin and Nature of Human Handicaps

LEWELLYS F. BARKER, M.D.†

BALTIMORE, MARYLAND

The foundation of a Beaumont Lectureship in Michigan was a very happy thought, for it was most seemly that the memory of William Beaumont should have been thus signally honored in the state in the forests of which, over a century ago, he began those famous experiments and observations on the gastric fistula of Alexis St. Martin that threw a flood of light upon the processes of gastric digestion and made the army surgeon who conducted them "the true leader and pioneer of experimental physiology in our country." And I am personally grateful to the Committee on Arrangements for the invitation to deliver the Beaumont Lectures this year; for in addition to the honor of the lectureship itself it is a real privilege, in view of the names of the eminent men who have preceded me, to be included in the list. And if the lectures I am to deliver upon the subject that has been assigned to me should prove to be interesting and helpful to those who listen to them I shall feel well repaid for the work of preparing them.

My lectures are to deal with the relationship of heredity and environment to the handicapped. The chairman of your committee, Dr. W. E. Blodgett, in his work as an orthopedist, has been greatly interested in children who are crippled, defective or otherwise handicapped, and he has been much impressed with the fact that, despite

the great increase of our knowledge in recent years, there seem to be just as many of the handicapped as ever coming under the observation of orthopedists and other specialists. General practitioners, too, are deeply concerned with the prevalence among the young of encumbrances and disabilities that weigh upon their efforts and that make success in life more difficult for them; the family physician as well as the specialist is, therefore, desirous of discovering ways and means for diminishing the incidence of these burdens and incapacities among those for whom they care. It is to the glory of our profession that its members are ever vigorously striving not only to cure disease and to compensate for handicaps but also, as far as possible, to find methods of preventing the occurrence of the conditions upon the care of which their own livelihood depends. Society as a whole is deeply concerned because of the large numbers of its members who are more or less seriously handicapped in early life. The advance of successful preventive measures would, therefore, be warmly welcomed not only by all medical men but also by the public at large.

\*The Beaumont Lectures of the Wayne County Medical Society, 1935.

†Dr. Lewellys F. Barker graduated at the medical school of the University of Toronto in 1890. After fifteen years of special work in anatomy, pathology, neurology and internal medicine, he was made Professor of Medicine and Physician-in-chief to the Johns Hopkins Hospital. He is now Professor Emeritus of Medicine in the same institution. Among his published works may be mentioned (1) *The Nervous System and Its Constituent Neurones*, 1899; (2) *The Clinical Diagnosis of Internal Disease* (3 vol.) 1916; (3) *Tuesday Clinics at the Johns Hopkins Hospital*, 1922; (4) *The Young Man and Medicine*, 1927; and (5) *Treatment of the Commoner Diseases Met with by the General Practitioner*, 1934.

## The Origin of Handicaps

What any human being (handicapped or normal) is at any given time depends upon factors of heredity, upon factors of environment, and upon their interaction. The inherited part of the human being is spoken of as the *genotype*, the part derived from the environment as the *paratype*; the realized individual, the resultant of the interaction of genotype and paratype, is known as the *phenotype*. Handicapped persons are, therefore, phenotypes that through genotypic influences or paratypic influences or both have become abnormal.

### 1. Genotypic Factors (Factors of Heredity) That May Be Responsible for Handicaps

Genotypic factors are those that are represented in the genes of the chromosomes of the fertilized egg-cell from which the individual develops; there probably is, in addition, a type of inheritance in which the influences of the parents may mix and this so-called "blended inheritance" may be transmitted through the protoplasm of the germ-cells rather than through the chromosomes (W. E. Castle). In these lectures, I shall have to take it for granted that my hearers are more or less familiar with the general principles of heredity. Our knowledge of these principles has resulted from very extensive experimental studies of inheritance in plants and animals. Beginning with Mendel's studies of the effects of crossing different varieties (tall and dwarf) of the common pea, experimental geneticists have extended their researches to a large series of plants and animals. Upon the results of their experiments are based our present ideas of dominant inheritance, of recessive inheritance, and of sex-linked inheritance.

Hypotheses have been cleverly devised and have been tested for their validity. I need only mention the brilliant speculations and the ingenious experiments of the American biologist, T. H. Morgan, who has worked especially with the fruit-fly (*Drosophila*) to recall to your minds the rapid advances in knowledge and theory that can follow the intensive study of inheritance through the testing of genial hypotheses. Morgan's imagination has led the way to productive methods of investigation that will be followed for decades to come. One

need only read cursorily his "Embryology and Genetics," Conklin's "Heredity and Environment," or the writings of H. S. Jennings, L. Hogben, F. Lenz and C. R. Stockard to become quickly and thoroughly convinced of the enormous significance of these newer studies of heredity.

In man, of course, it is not practicable to pursue the study of heredity experimentally, though we can observe the results of the matings of different sorts of human beings. We can, however, draw probable conclusions for man from the studies of heredity in plants and animals by analogy and can subject these tentative conclusions to testing by human statistics. It has become certain from such studies that the Mendelian laws hold for human beings also and that there is no inheritance of acquired qualities. Dominant inheritance, recessive inheritance and sex-linked inheritance are found to occur among human beings as among animals and plants. In animals definite crossings are decided upon and experimentally made and tested; among human beings we seek instances of special crossings and study the results as Davenport has done for matings of negroes and whites (1913) and as Vogt did for the marriages of women with red-green blindness (1921).

Statistical studies of human hereditary factors may be made either by (a) the genealogical method of individual statistics (ancestors; descendants; collateral relationships), or by (b) the demographic method of mass statistics (communities; countries). On the whole, genealogical studies are of the greater value provided they are made by competent persons.

In the origin of many handicapping processes both heredity and environment play a part. When I speak of inherited processes I refer to those in which a pathological genotype is mainly concerned; the genotypic factors responsible for the handicapping process follow the same Mendelian laws as do normal factors.

A. MALFORMATIONS OF GENOTYPIC ORIGIN.—Club-foot is a malformation that is hereditary in certain families. It seems to depend in such families upon a recessive factor, making its appearance in offspring only when the germ plasm of each of the parents carries the pathological factor. In a family described by Fetscher (1922), clubfoot appeared in the third generation



as a result of incestuous relations between a brother and a sister. The fact that males are affected twice as often as females suggests that the recessive inheritance factor may be sex-linked (Lenz), that is, carried by the genes of the sex-chromosome. *Genu valgum* in tall, hypotonic asthenics and *genu varum* in short, hypertonic pyknics, formerly thought to be statically conditioned, are believed by Boehm to be related to the persistence of primitive skeletal forms, though it is probable that factors of both heredity and environment may be concerned in their origin.

*Congenital luxation of the hip* is exquisitely hereditary and seems also to be due most often to a recessive factor, though in one family studied by Roch it appeared in each generation and thus seemed to be due to a dominant factor.

In *Perthes' disease* (osteochondritis juvenilis), in *Köhler's disease* of the tarsal scaphoid bone, and in the *Osgood-Schlatter disease* (anterior tibial apophysitis) investigations are under way to determine in how far their phenotypic manifestations are released by exogenous factors and in how far they are endogenously conditioned (Brandt).

Round back in adolescence (*dorsum rotundum*) may be due in part to hereditary factors, though faulty postural habits are usually blamed; its origin merits further study.

An excessive number of fingers (*polydactyly*), congenital absence of fingers (*ectrodactyly*), adherent fingers (*syndactyly*), abnormally short fingers (*brachydactyly*), and certain other anomalies of the hands and feet have been shown to be exquisitely hereditary; many of them have been shown to depend upon a dominant process of inheritance.

*Multiple enchondromata and exostoses* appearing in youth occur in the same family in successive generations, due apparently to the existence of a dominant factor.

*Microcephaly* (often associated with imbecility), *spina bifida*, *cleft palate*, and *certain anomalies of the jaws and of the teeth* are believed to be due to genotypic factors.

*Hypospadias* may be met with in certain families through several generations. *Infantile genitalia*, an *excessive number of breasts or of nipples* and various other anomalies in the domain of the sex organs

have also been shown to be due to hereditary factors.

B. ABNORMAL CONSTITUTIONS AND DIATHESSES OF GENOTYPIC ORIGIN.—In body form the majority of people born belong to either the slender, tall variety (*asthenic type of constitution* or "*linear type*" of Stockard) or to the short, thick-set variety (*pyknic type of constitution* or "*lateral type*" of Stockard). These types cannot therefore, in themselves, be regarded as abnormal, though in their extreme development they may be pathological, in which event, in the excessively asthenic type we meet with abnormal fatigability, marked splanchnoptosis and an increased disposition to tuberculous infections, whereas in the excessively pyknic type we often see arterial hypertension, arteriosclerosis, obesity, gout, or diabetes develop. Both asthenic and pyknic constitutions depend, in the main, upon genotypic factors.

*Dysplastic constitutions* with evidences of marked endocrine imbalance are common as inherited conditions. Thus gigantism and dwarfism, chondrodystrophia, hyperthyroidism and myxedema, as well as hypersexual constitutions, eunuchoidism and cryptorchidism are dysplastic states due in the main to inherited factors to which environmental influences may, however, contribute. Transposition of the viscera may be familial.

Pediatricians have been deeply interested in the observation of the so-called *abnormal diatheses* that make children for whom they care excessively sensitive to certain environmental influences to which normal children exhibit a stronger resistance. The genotypic origin of these diatheses has long been suspected, though the bringing of proof has sometimes been difficult. The more important of these diatheses are (1) the exudative or inflammatory, (2) the dystrophic, (3) the lymphatic, and (4) the spasmophilic.

The *exudative or inflammatory diathesis* seems to be definitely inherited. More boys than girls (2:1) exhibit this diathesis (von Pfaundler) though the defective gene seems more often to be derived from the mother than from the father. The diathesis predisposes strongly to eczema, to catarrhal inflammation of the mucous membranes and to dandruff.

The *dystrophic diathesis* often makes the bearers of it intolerant to foods upon which healthy children thrive. Many of them do not digest cow's milk well; some of them appear to be intolerant of milk from their own mothers. These disabilities do not always depend upon allergic states. The inheritance of the dystrophic diathesis seems to be related to a dominant genotypic factor.

The *lymphatic diathesis* is associated with a marked tendency to hyperplasia of the lymphatic organs and tissues of the body (status lymphaticus). The children have hypertrophied tonsils, adenoid vegetations, and often generalized enlargement of the lymph glands. Their tissues are juicier than normal, giving them a "pasty" look. Lymph-gland tuberculosis ("scrofula") is not uncommon among such children. Their inheritance seems to depend upon a dominant genotypic factor.

The *spasmophile diathesis* is not uncommon among children and makes sucklings and very young children susceptible to spasm of the glottis and to general convulsive seizures (often attributed by the parents to teething). Fatalities are not uncommon among such children. The diathesis is frequently encountered in families that exhibit rickets.

C. RESPIRATORY ANOMALIES OF GENOTYPIC ORIGIN.—*Chronic bronchitis* is especially common in certain families and in these families pathological inherited factors have been held responsible.

*Pulmonary tuberculosis*, as is well known, tends "to run in families," not simply owing to contagion but to inherited constitutional predisposition of the lung tissue to tuberculous infection.

True *bronchial asthma*, commoner in men than in women, and hereditarily transmissible through healthy daughters to the grandsons (sex-linked recessive heredity?) may depend upon the inheritance of an abnormal tendency to the development of allergic states owing to constitutional imbalance of the endocrine-vegetative system, this idea receiving some support through the fact that migraine, urticaria, mucous colitis and angioneurotic edema are often met with in these asthmatic families.

*Emphysema of the lungs* seems to have a constitutional basis which some think is also

responsible for early local senescence of the lung tissue.

D. CIRCULATORY ANOMALIES OF GENOTYPIC ORIGIN.—*Congenital forms of heart disease* are especially prevalent in certain families. Cardiac infantilism, drop heart, and hypoplastic aortas are characteristic in the members of some families. Congenital non-inflammatory mitral stenosis is commoner in girls than in boys, other forms of congenital valvular disease being commoner in boys than in girls. In the former, a sex-linked dominant genotypic factor has been held responsible, in the latter, a sex-linked recessive factor. The disposition to acute articular rheumatism and to an associated *endocarditis with valvular lesions* may be outspokenly familial (Strebel; Herz).

*Chronic arterial hypertension* is often a familial disorder, accompanied sooner or later by evidences of arteriosclerosis. *Cardiovascular neuroses* also tend to run in families.

E. DISORDERS OF THE BLOOD AND OF THE BLOOD-BUILDING ORGANS OF GENOTYPIC ORIGIN.—*Aplastic anemias and leukemias* are familial in incidence in some families. *Congenital hemolytic icterus* with splenomegaly is known as "family jaundice"; in some families the hereditary factor is dominant (Gänsslen), in others not. *Splenomegaly of the Gaucher type*, though a very rare malady, is a familial disease.

Much more common are the *families of "bleeders" or hemophilics*; the males are the bleeders but do not transmit the disease, whereas the females, though they do not bleed themselves, serve as "conductors" since they transmit the tendency to hemorrhage to their sons (Emile-Weil, 1908; Bullock and Fildes, 1911; B. Lloyd, 1925). The hemophilia that has been described as occurring occasionally in females seems to be of a different type.

F. DISORDERS OF THE DIGESTIVE SYSTEM OF GENOTYPIC ORIGIN.—*Hyperacidity* of the stomach juice often accompanied by pylorospasm and sometimes by gastric ulcer is often outspokenly familial (Grote, 1920; Strauss, 1920) as is also *achylia gastrica*.

*Hirschsprung's disease* (congenital megacolon with dilatation) is believed to be of genotypic origin. In one family, investi-



gated by Gänsslen, the inheritance was dominant in type.

*Cholelithiasis*, four times as common in females as in males, though predisposed to by a sedentary life and by infections like typhoid fever, is thought to depend, in part at least, upon an inherited predisposition, the heredity being a dominant process (A. Bluhm).

The form of multilobular *cirrhosis of the liver* that is associated with focal lesions in the brain, especially in the nucleus lentiformis (*Wilson's disease; hepatolenticular degeneration*) appears to depend upon inheritance of recessive factors. F. R. Ford of Baltimore recently showed me a brother and sister suffering from this rare disease and three others were dead of it—five of the ten children had already been affected.

G. RELATIONS OF INHERITANCE TO DISEASES OF THE KIDNEYS.—In some families, *acute nephritis* occurs after scarlet fever much more often than in other families (F. Lenz). *Glomerulo-nephritis* of marked familial distribution has also been described (Pel). *Genuine contracted kidneys*, as is well known to internists, are much commoner in some families than in others. *Constitutional albuminuria* has been described as a familial anomaly, as has also *paroxysmal hemoglobinuria*. *Congenital cystic kidneys* have been found at autopsy in several members of the same family.

H. MUSCULAR, NERVOUS AND MENTAL DISEASES OF GENOTYPIC ORIGIN.—Here we come to a whole series of more or less severe handicapping conditions that are of very great practical importance.

*Congenital absence of certain muscles* is occasionally observed. Whole muscles or parts of muscles may be involved. The defects of this sort of greater importance include (1) the M. pectoralis, (2) the M. trapezius, (3) the M. serratus anterior, and (4) the M. quadriceps femoris. There is no difficulty in recognizing the existence of these conditions by inspection, palpation and the making of functional tests.

The *progressive muscular dystrophies* begin in childhood or in youth and are definitely familial in distribution. These dystrophies are frequently encountered in every large clinic in which children are studied, and many general practitioners know of families in which these dystrophies exist.

Several types have been distinguished among them, (1) the *facioscapulo-humeral type* (Landouzy-Dejerine), (2) the *juvenile form of Erb*, (3) the *pseudohypertrophic paralysis of Duchenne*, and (4) the *Leyden-Möbius or Zimmerlin type*. These different varieties evidently depend upon different kinds of defective genes though the malady in any given family follows a similar course in the members of the family that are affected. In the majority of cases the genotypic factor is a simple recessive (W. Weitz, 1931), though in some families it appears to be a sex-linked recessive. In one family studied by Kehrer, the inheritance was of dominant type affecting members of four generations. It is interesting that in this family the disease was relatively so mild that it permitted the continuance of the family; one man who suffered from the disease married twice and each of his healthy wives gave birth to some children who developed the disease and other children who remained healthy.

The recent studies of creatine and creatinin metabolism in the myopathies seem to be early steps toward discovery of the chemical mechanisms through which the pathological genotypic factor operates. In this connection, too, the favorable effects of amino-acid therapy (glycine and glutamic acid) obtained since 1932 (Milhorat) are most interesting [cf. Tripoli, McCord & Beard, J.A.M.A., 1934, 103:1595-1600].

The *spinal, bulbar and neural forms of progressive muscular atrophy* all occur on an hereditary basis. In the two former types, only single cases may be encountered in a family in one generation, though instances are reported of occurrence of the disease in several brothers and sisters of the same family, facts that point toward a recessive genotypic factor. In the *Werdnig-Hoffmann* type, especially, several children of the same family are affected in infancy. In the *neural form* about five times as many males as females are affected, the statistics thus making probable the existence of a sex-linked recessive factor for the majority of cases of this variety of progressive atrophy. In the *Dejerine-Sottas type* the disease develops in infancy.

In *primary lateral sclerosis of the Strümpell type* we have to deal with a familial and hereditary form of spastic paraplegia. More males than females are affected. In some

families the genotypic factor is a dominant, in which case the malady is likely to be relatively mild; in a family described by Bremer (1922) the malady appeared in each of six successive generations. Sometimes, however, this form of hereditary spastic paralysis, especially when the disease is severe, appears to depend upon a recessive factor as in the family described by von Pfaundler in which all six children of two healthy but blood-related parents developed the disease in infancy.

Of the *cerebral palsies of children* those that are present at birth and show no progressive trend later are often due to meningeal hemorrhages or other injuries occurring during the birth process rather than to abnormal inheritance, but the other spastic hemiplegias and diplegias of infants (except those due to infections) are frequently dependent upon pathological genotypic factors.

*Myotonia congenita* (Thomsen's Disease) is exquisitely heredofamilial though exogenous factors may participate in causing the appearance of the symptoms. The patients exhibit a very remarkable disturbance of muscle-tonus in that the muscular contractions voluntarily innervated persist for about a half a minute despite every effort to relax them. The malady often becomes evident in childhood and is more common in males than in females. The inheritance is dominant in type.

*Familial spinocerebellar ataxia* (Friedreich's disease) appearing usually in childhood or during adolescence is characterized by a slowly developing disturbance of station and motion that is a mixture of spinal and cerebellar ataxia. It is accompanied by disturbances of speech, of the deep sensibility and of the reflexes, by deformities of the feet, hands and spine and, often, also by nystagmus and eye-muscle paralyses. The disease may attack several children of two apparently healthy parents who are blood-relatives; in such instances the inheritance process is of the recessive type. Hundreds of years may elapse before a man and a woman who both carry the recessive factor marry and have children who exhibit the disease. As evidence of this, Rutimeyer and Frey (1912), intrigued by the occurrence in the second half of the nineteenth century in a small Swiss village of 15 cases in six families in which the parents were free from the disease, traced the genealogy

of the six families back to a common ancestor, a man named Glaser who was born in 1510. It is possible that the pathological genotypic factor arose by mutation in him and that ten or twelve generations followed before the outbreak of the disease occurred through the intermarriage of persons carrying the recessive factor.

A somewhat similar disease is the *hereditary cerebellar ataxia of P. Marie* though here the ataxia does not develop in the families affected until adulthood. Sanger Brown of Chicago reported such a family in 1892 and found twenty-one cases in four generations. The disease is due to a dominant genotypic factor as the malady was observed in members of each of all four generations. I had the privilege of studying histologically the nervous systems of two brothers who died of the disease and found congenital hypoplasia of both the cerebellum and the spinal cord with outspoken degeneration of the paths from the cord to the cerebellum as well as slight degeneration of the pyramidal tracts. The family tree showing the affected members was published in my paper in the Decennial Publications of the University of Chicago (1903).

Huntington's *chronic hereditary chorea* may occur in the same family for generations affecting the two sexes equally. Though it does not develop, as a rule, until early middle life, the children of the families in which it occurs are endangered as to their future since after the choreiform movements develop there is progressive mental deterioration that leads to marked apathy and often to pitiable dementia. The disease has its origin in a dominant genotypic factor and the members of such families are all too prone to marry and to have children before the disease develops. Obviously, members of such families should decide to forego marriage. Davenport (1915) has commented upon the relation of this malady to heredity and eugenics.

The so-called *hereditary double athetosis* is a "disease of the associated movements" (Lewandowsky) in which the most extraordinary generalized associated movements occur. The malady usually develops before puberty and the children affected are seriously handicapped by it. If the patient try to close an eye, or to speak, the whole face breaks out into wild grimacing movements.



On walking, the body is thrown into grotesque contortions, "as though one, having slight spasms, tried to walk over eggs." Speech is much disturbed and many of the patients become mentally enfeebled. Unfortunately, many of the patients live long lives of great disability. The disease appears to depend upon recessive genotypic factors.

*Essential tremor* is an outspokenly hereditary disorder in which the symptoms usually appear at the age of puberty (Brasch, 1895; Spiller, 1905; Flatau, 1908), though it may appear sometimes in earlier childhood. As a rule, it is not associated with other nervous disturbances, though in a few cases nystagmus may develop and in some instances mental disturbances.

*Stuttering* and *stammering* depend in large part upon inherited factors. They are associated with left-handedness in about 25 per cent of the cases. *Deaf-mutism* in certain cases among children of consanguineous marriages is probably due to recessive hereditary factors.

*Congenital idiocy* and *congenital imbecility* are very common conditions and are sources of great social and economic difficulties for the families in which they occur. Though syphilis in the parents may account for many of the cases, severe alcoholism to a less degree, and in certain geographic districts cretinism may be responsible for others, it has been asserted that fully one-half (some say two-thirds) of the instances of feeble-mindedness met with in children are dependent upon hereditary factors. In the well-known Kallikak family studied by H. H. Goddard, among 40 marriages in which both marital partners were feeble-minded, it was found that 220 feeble-minded children were born and only two apparently normal children; moreover, when one parent was feeble-minded and the other normal, about half their children were imbeciles. These observations together with the fact that imbecility occurred in each of five successive generations suggest that a dominant genotypic factor was responsible in the Kallikak family.

That in some families recessive genotypic factors are the source of imbecility has been shown by the researches of Davenport and Weeks. Since imbeciles often marry imbeciles, it is quite possible, as Lenz has pointed out, that one might observe the

birth of imbeciles in each of several successive generations even when the imbecility depends upon recessive factors rather than upon dominant factors. In some families, sex-linked genotypic factors have been held responsible for feeble-mindedness; in these families the mothers of the imbecile children are more often defectives than the fathers (Schlesinger, 1907; Schott, 1919; Reiter, 1921).

Outspoken *idiots* do not marry and the hereditary transmission of such idiocy cannot therefore be due to a dominant genotypic factor but must depend upon the marriage of persons carrying recessive factors.

*Mongoloid idiocy* does not appear to be of hereditary origin, for the incidence does not seem to be familial. Some of the cases may be due to injury of the fetus by chemical agents unsuccessfully used to produce abortion. A mongoloid idiot has often been the last child of an elderly and enfeebled mother.

From what has been said, it will be evident that the danger of transmission of imbecility lies chiefly in the recessive type since "carriers" need not be imbecile though if two non-imbecile "carriers" marry, their offspring will be imbecile. Another danger lies in the marriages of the so-called "high grade imbeciles" in whom the evidences of mental deficiency may be merely narrow-mindedness, limitation to concreteness, egoism, superstition, and preternatural suggestibility. From parenthood by such persons, society will always have difficulty in protecting itself.

The *manic-depressive group of psychoses* affords one of the most striking examples of the importance of hereditary factors for the occurrence of mental disturbances. This group of psychoses includes the *manic states* in which the mood is exalted, the patient is over-happy, exceedingly talkative, easily distractible, and exhibits flight of ideas and pressure of activity. One meets with various degrees of the disturbance. In patients exhibiting *milder (hypomanic) states* that often go unrecognized, that indeed are often regarded as due to exceptional health and vigor because of their tirelessness in activity, their blooming appearance, the brightness of their eyes, their sharpness of observation, the physician who has been trained in psychiatry quickly sees

evidences of superficiality, of poverty of underlying thought, of absence of disease-insight, and of a tendency of the mental associations to be influenced by sound, similarity and contiguity. In the *severer forms of mania*, recognition of the condition is less difficult and even an ordinary layman will know that the person is mentally abnormal because of his ideas of grandeur, his extravagant egoism and self-appreciation, his sudden changes of mood, and his tendency to outbreaks of anger or violence. In the severest cases (*mania furiosa*), the patients may gesticulate, yell, tear up their clothes, pull out their hair, perform sexual acts in public, smear themselves with urine or feces, or be pathologically aggressive toward those about them.

In the depressive phase of a manic-depressive psychosis (*melancholia*) the patient becomes pathologically sad, his thoughts and speech are slowed up, he looks dejected without adequate external cause and often develops pathological ideas of self-depreciation, of poverty, or of sin. In a *milder depression*, the symptoms may be much less marked, though the skilful physician, especially if he be acquainted with the personal and family history, will not be likely to overlook the psychomotor retardation and its significance, even when the patient blames some bodily illness or some environmental influence for his abnormal mood. In every melancholia, severe or mild, the attending physician must keep the danger of suicide ever in mind and take suitable precautions to prevent it. In these melancholias there is no intellectual deterioration such as occurs in general paresis or in senile dementia.

Patients who are depressed at certain times of life may be exalted at other periods of life (so-called *circular insanity*). In a few patients, manic symptoms may be combined with melancholic symptoms in the same attack.

Just what precipitates attacks of mania or of melancholia in persons of cyclothymic constitution is not known, but the tendency to the attacks is certainly exquisitely hereditary; every physician knows of families in which the disease has been prevalent in successive generations. Dominant genotypic factors appear, therefore, to be responsible for the disposition to manic-depressive psychoses. These psychoses occur about

twice as often in women as in men. One parent, more often the mother than the father, may be responsible for the hereditary transmission (Hoffmann, 1919).

In the *schizophrenic group of psychoses* (*dementia præcox*), which may take the form of *hebephrenia*, of *katatonía* or of *paranoid dementia*, the mode of inheritance has been more difficult to determine. Dominant genotypic factors can certainly be ruled out. Studies made during the past two decades (Rüdin; Hoffmann; Weinberg) make it seem probable that recessive factors are responsible, the inheritance suggesting that the condition is due to a "double recessive" heredity, that is to say, that two pairs of abnormal genotypic factors must co-exist in order that a schizophrenia may develop. Forms of psychopathy other than true schizophrenia appear to be quite common in the families in which schizophrenic cases are met with.

It is rather striking that schizophrenics tend to occur in families in which the asthenic habitus predominates rather than in families in which the pyknic habitus is common; precisely the opposite is true of the manic-depressive psychoses. Persons of asthenic habitus are prone to be of schizoid temperament whereas patients of pyknic habitus are prone to be of syntone temperament. Further studies will be required to make our knowledge of the mode of inheritance in schizophrenia entirely satisfactory.

In true chronic *paranoid psychoses* (other than the paranoid form of *dementia præcox*) with systematized delusions of persecution and of grandeur, with or without hallucinations, the relations of hereditary factors do not seem thus far to have been adequately studied, though some believe that a process similar to that just postulated for schizophrenia is responsible.

With regard to *criminal types*, two main groups are distinguishable: (1) the so-called "*born criminals*" with a life-long history of repeated crimes and imprisonments due to strong aggressive instincts and lack of evidence of moral restraint, and (2) the "*feebly-inhibited*" who yield to temptations apparently without consideration of legal consequences (liars; thieves; exhibitionists; anti-social delinquents). In both groups, genotypic factors are probably more important than environmental factors, though the inheritance processes concerned remain still



to be worked out. Homosexuality has been observed in several members of the same family and in such a family is probably genotypically determined.

In the origin of the *functional neuroses* (neurasthenic, psychasthenic and hysterical states) both hereditary and environmental factors may be causative. According to Lenz, the *hysterical* constitution especially depends upon inherited influences, the process of transmission being through a dominant genotypic factor. Environmental influences may play a larger part in the origin of *neurasthenic* and *psychasthenic states*, but as every general practitioner knows the familial tendency to such disorders is often strong; one is, moreover, impressed with the frequency of psychopathic parentage among such patients.

*Abnormalities of the sense-organs* are in many cases of genotypic origin. Thus, in the eyes, *refraction errors* which depend upon congenital anomalies in the length of the eye ball, the curvature of the cornea, or the shape of the crystalline lens have long been known to be due to hereditary transmission of abnormalities. The genotypic factors concerned in *myopia* are in most cases dominant, though in some families they appear to be recessive, occasionally sex-linked recessive. *Hypermetropia* and *astigmatism* are also of genotypic origin; in one family reported in the literature astigmatism was demonstrated in each of five successive generations (Spengler).

*Night blindness (hemeralopia)* is dependent in certain families upon a dominant inheritance; in other families it appears to be due to a sex-linked recessive factor. It is said that night blindness has been traced back for more than 300 generations. *Total color-blindness* depends upon recessive factors and *red-green blindness* upon sex-linked recessive factors.

*Congenital cataracts* (responsible for about 10 per cent of those born blind) are apparently due to dominant genotypic determiners; in a family reported by Nettleship, central congenital cataract was observed in members of three successive generations.

About one-fourth of the *deaf and dumb* depend upon recessive inheritance of defective genes; this is interesting because of the observed relative frequency of deaf and dumb descendants of marriages of relatives.

Many other examples of handicapping diseases or anomalies due to defective or inferior genes in the germ plasm of one or both parents might be referred to if time permitted, but doubtless enough have been cited to make this aspect of the problem clear.

SPECULATION AS TO THE ORIGIN OF PATHOLOGICAL GENOTYPIC FACTORS.—From the biological standpoint, human genotypic patterns that contain factors that lead to the development of abnormal phenotypes must be thought of as having their origin in so-called *mutations* or *idio-variations*.

Experimental biologists claim that they have been able to influence germ plasms in sex-cells by physical and chemical agents so as actually to produce mutations. Morgan working with the fruit fly, Tower with beetles, Gollas with paramecium, O. Hertwig with amphibians, Agnes Bluhm with mice, Stockard with guinea-pigs, and Cole with rabbits, have accumulated much evidence in favor of the view that high temperatures, roentgen-rays, alcohol, arsenic and other chemical substances when applied to sperm-cells may result in alterations in the germ plasm that are hereditarily transmissible for generations. C. R. Bardeen, a quarter of a century ago, proved experimentally that amphibian spermatozoa could be so changed by exposure to x-rays that normal ova fertilized by them yielded deformed embryos. It is early conceivable, therefore, that in human beings, also, pathological genotypic factors may arise as a result of exposure of human ova or spermatozoa to various abnormal environmental influences and be responsible for pathological types of human mutations. It would scarcely seem to be an accident that about one-third of all idiots, imbeciles, and epileptics have had ancestors who used alcohol to excess. If long and repeated exposure to x-rays or to radium will sterilize human beings, may not fewer and shorter exposures possibly give rise to idiokinetic changes? And, again, may not chronic infectious processes like tuberculosis and syphilis sometimes lead also to testicular or ovarian changes that result in the loss of certain genotypic factors or the modification of others? It is interesting that the idiovariations that have been experimentally produced in lower animals have been shown

to behave, as a rule, as recessive factors. If new recessive factors similarly arise in human germ plasms it might be many generations before a pathological phenotype (due to the meeting of two such recessives in a fertilized ovum) would make its appearance. Lenz has pointed out that if a recessive hereditary disease should today make its appearance for the first time in a given people we should have to assume that the pathological genotypic factor must have arisen at least 100 years ago, say at the time of the Napoleonic Wars. On the other hand, if a new pathological factor of dominant hereditary arose, the disease for which it is necessary might appear in every successive generation.

Much more knowledge must be acquired regarding the origin of mutations before we shall be justified in accepting, or dismissing as improbable, speculative views concerning their sources.

## 2. Environmental Influences That May Be Responsible for Handicaps

Having cursorily reviewed the genotypic factors that may be responsible for handicaps, we may now turn to the more important harmful environmental influences, especially to those that may lead to handicapping early in life. From the moment of fertilization of the egg-cell onward, the new human being becomes subject to influences from the surroundings, first within the body of its mother (prenatal environment), later during growth and development in the world outside (post-natal environment). The environment is made up of a series of physical components (temperature, light, electricity, radiations, air pressure, kinetic influences), chemical components, biological components, as well as psychological, social, economic and political components. It is not my intention to deal with all these in detail. I shall instead refer (and briefly) only to the notoriously handicapping influences such as certain traumata and certain infections and intoxications.

*Traumata* to the head during the process of birth may, as every general practitioner knows, cause intracranial hemorrhage or other damage that may permanently handicap. Traumata of varying grades of severity during infancy and adolescence may handicap either physically or mentally the developing child. Thanks to ever-increasing efforts to prevent accidents, however, handi-

caps of traumatic origin ought, in time, to become much less common. As yet there are far too many of them; the future of children who have lost one or more limbs, or have suffered brain impairment from skull fracture, or whose sight or hearing has been lost through trauma, are greatly to be pitied.

Infections in early life due to bacteria or to filtrable viruses are responsible for a host of handicaps. I need mention only scarlet fever, poliomyelitis, epidemic encephalitis, epidemic cerebrospinal meningitis, tuberculosis, acute rheumatic fever, and congenital syphilis to recall to your minds many instances in your own experience as physicians of the devastating effects of such infections in children and their residuals. Our homes for incurables and for the crippled and deformed, our institutions for mental defectives, our sanatoria for the treatment of tuberculosis, our orthopedic and pediatric clinics, our children's hospital-schools, and our blind asylums are places that receive large contingents of children who have been permanently handicapped as the result of one or another infectious disease. The thousands that become more or less permanently crippled from chronic arthritis, the enormous numbers that become greatly incapacitated by valvular diseases of the heart secondary to acute endocarditis, and the many who become victims of chronic nephritis after scarlet fever, tonsillitis, and other diseases are impressive groups of the handicapped that are the result of infectious processes of one sort or another.

*Chronic intoxications*, also, yield their quota of the handicapped, though the chemical poisonings that are common in certain industries are rarely met with in children or in adolescents.

The explanation of certain handicapping processes has been found in recent years in the *deficiency of vitamins* in certain diets.

*Vitamin A*, especially important for growth, is also essential for the welfare of the epithelial cells and when not ingested in adequate amounts xerophthalmia may develop or the resistance to infections may become markedly reduced.

The *Vitamin B-complex* is another essential constituent of foods. Beriberi, a disease that handicaps great numbers of persons, both young and old, who live on polished rice in the Orient is a form of neu-



ritis that develops when vitamin B<sub>1</sub> is insufficiently supplied. Pellagra, on the other hand, appears to be due in large part at least, to an insufficient supply of vitamin B<sub>2</sub> in the diets of persons who live largely upon corn products and who do not eat enough animal proteins, fruits and green vegetables. Though rapidly coming under control, pellagra still continues to be responsible for a contingent of the handicapped in the states south of Mason and Dixon's Line.

A sufficiency of *Vitamin C* in the diet, so important for the welfare of the endothelial cells of the body, especially those of the capillary blood-vessels, is necessary to prevent infantile scurvy (the Moeller-Barlow disease) and also to prevent the scurvy of adults and the hemorrhagic tendency that accompanies it. No child and no adult will be handicapped by scurvy provided sufficient orange juice, lemon juice, tomato juice or other substances rich in vitamin C be included in the diet.

Another avitaminosis responsible for much handicapping, especially among the young, is that due to insufficient intake of *Vitamin D in the diet*. This vitamin has much to do with the maintenance of a normal level of calcium and phosphorus in the blood; when insufficiently supplied infants and younger children are prone to develop rickets, which if not early recognized and treated may lead to handicapping deformities of the lower extremities (bowlegs or knock knees) or of the pelvis and of the spine. Vitamin D is produced in the human body by the effect of sunlight and of ultra violet rays upon the ergosterol in the skin. This vitamin is abundant in cod liver oil, in halibut oil, in egg-yolk and in irradiated yeast. Cows fed upon the latter yield milk that is rich in vitamin D; in some cities, such milk can be purchased for administration to young children and to expectant mothers.

Still other vitamin deficiencies are known but those most important as causes of handicapping in young people have been mentioned.

*Deficiency of certain mineral substances* in the body or their faulty distribution may also be responsible for bodily injury. I have already referred to the relations of calcium and phosphorus metabolism to rickets. Deficiency of iron or of copper may interfere with hemoglobin production and lead to anemia. Lack of iodine is the cause of endemic goitre and in regions in which goitre is endemic the custom of using iodized salt at the table instead of ordinary salt is growing. Other mineral deficiencies are now under study (manganese; magnesium).

Much of the *general undernutrition* met with in the slums of large cities is due to inadequate diets and generally faulty hygiene because of poverty or of ignorance. It is but little wonder that deficiency diseases of different sorts, tuberculosis and other infections, nervous and mental disorders, and aberrations of conduct should be especially prevalent among the children of such districts.

*Excessive obesity* may depend upon faulty habits of diet but more often endocrine anomalies (pituitary, thyroid, sex-glands) are largely responsible.

In this lecture, time will scarcely permit of a more extended discussion of the origin and nature of human handicaps and of their relations to inheritance, on the one hand, and to environment, on the other, but the importance of both kinds of factors has, perhaps, been sufficiently illustrated. In my second lecture I shall deal briefly with (1) the amelioration of the condition of the handicapped, and (2) the possibilities of diminishing the numbers of the handicapped by modifying either heredity or environment.

## THE GENERAL PRACTITIONER AS HIS OWN NEUROLOGIST\*

HUGO A. FREUND, B.A., M.D.

DETROIT, MICHIGAN

Opinions vary widely as to the extent to which specialism in professional practice may go. Logically, specialties are divided to conform to anatomical systems or tracts of the body, and due largely to the conservatism of the majority of the profession have not gotten out of reasonable bounds. Constant research and refinements in technic make the acquisition of a comprehensive knowledge of all branches of medicine increasingly difficult. Thus, we have come to accept Internal Medicine, Surgery, Gynecology and Obstetrics, Urology, Orthopaedics, Gastroenterology, Dermatology, Neurology and Psychiatry, Ophthalmology and Otolaryngology, Pediatrics, and a few other specialties, limited to more circumscribed anatomic fields.

The past few decades have witnessed other types of specialism develop. Certain forms founded on pathologic physiology of the endocrines, on specific reactions to foreign proteins, on the toxicity of bacteria, their filtrates and antibodies, have become popular among the laity and among a limited group of physicians. It is questionable whether these should be glorified as special branches of medical practice. Their development might better be confined to university schools of medicine, to institutes of research, to hospital clinics or to the special hobby or side interest of the individual physician in whose cloistered laboratory many an epochal advance may originate. From such sources, unvarnished scientific facts may be distributed at their true value to the practitioner and the specialist alike.

The graduate of today has a comprehensive understanding of Anatomy, Histology, Physiology, Bacteriology, Pathology and Pharmacology upon which he has built his conception of the various branches of medicine. When he emerges upon the field of practice, he is generally equipped to attack any medical problem. He sees his patient as the individual, not from the viewpoint of the specialist. So long as he maintains this attitude of regarding the patient as a biologic unit and deals with him as such, the complexities that oftentimes arise do not mystify him nor cast grotesque shadows in his path. All the latest facts of the fundamen-

tal medical sciences need not be at the general practitioner's fingertips. Yet a general acquaintance with recent advances, access to the reliable medical journals and reference volumes, and the urge to understand, will place any patient's problem within his grasp.

Nowhere are these facts better exemplified than in the field of Neurology, which, one may as well frankly admit, the general practitioner approaches with some trepidation and bewilderment. The anatomy of the central nervous system is indeed complex and the physiology is no less difficult. Yet what voluntary act, involuntary activity, sensation, coördinated movement or emotion can occur in the human organism without the nervous system playing a part? To understand the individual, it is essential to know his nervous system, not in every intricate detail, but in a way to appreciate the source and course of his inflowing and outgoing impulses, their interrelationships, their integrations and their ultimate effects. The practitioner of medicine deals with the biologic unit from which the neurologic element cannot be separated. In fact, none of the specialties, be they ever so limited, can disregard this primary relationship.

Obviously this is not the place for a review of the anatomy and functions of the central and sympathetic nervous system. Nor is there time for a categorical summary of the pathologic conditions that may confront the physician in his practice. The frequency with which simple neurologic problems must be met, and the need of a working knowledge of the mechanism of the nervous system, may be illustrated by discussing a number of typical conditions.

\*Read before the Section on Medicine, 114th annual meeting of the Michigan State Medical Society, Battle Creek, September 12-14, 1934.



*Case 1.*—An emergency call comes to the office because Mrs. F. has been suddenly seized with violent nausea, vomiting, diarrhea and dizziness. Household remedies have been of no avail. There is a long standing history of general vascular disease and hypertension. Eight years ago she had a left facial palsy, involving the upper, middle and lower facial branches; even today she cannot wrinkle her brow, completely close her left eye, nor smile symmetrically—the picture of a peripheral nerve involvement. (Had the lesion at that time been due to a cortical or central nerve involvement, the upper facial neurone would not have been affected). On examination she is ashen pale, fully conscious and in great distress. Her hands and face are cold, the pulse is 100 and bounding, the blood pressure is 260 systolic, 140 diastolic. She retches and vomits violently; her sphincters are relaxed; the slightest movement of the head increases the violent vertigo. The pupils are equal, react normally to light and accommodation. Looking to the left produces a rapid horizontal nystagmus with quick component to the left. Her hearing is unaffected. (Impulses from the semicircular canals run together with the impulses from the organ of Corti in the eighth nerve as far as the medulla. Here they separate, the auditory fibers going to the temporal lobe in the cerebellar cortex and vestibule fibers running through the inferior cerebellar peduncles to the cerebellar nuclei, through the superior cerebellar peduncles to the cerebellum and thence to the cerebral cortex.) There is no motor paralysis, incoordination or other peripheral sensory or reflex change. The localization of the lesion becomes an interesting problem, and although one may not determine the exact site of the lesion at once, it is evident that it has no relation to the previous facial paralysis, that lesion must be either in the left horizontal labyrinth or in the left cerebellar tract and that it is not extensive at the time of the examination.

Vertigo, the presenting symptom, is a complaint that the general practitioner must frequently deal with. The word itself brings instantly to mind any number of possible causes. But does the physician always ask himself, "what is vertigo"? Simply stated, it is the expression of a disturbance of equilibrium, a disturbance of the kinetic-static sense. This is our seventh sense, the end organs of which are in the semicircular canals of the labyrinth in the internal ear. This sense, and our so-called "muscle-tendon sense" form two important additions to the recognized five special senses. Does the general practitioner regard and think of these seven senses of individual and equal importance? (The sixth sense, it may be said, does not impress itself directly upon our consciousness, for it becomes evident only through automatic, associated, unconscious control. Special end-organs in muscles and tendons are the receptors of impulses that react through coördinated movements in the body. Weight is estimated by this sense. If an explosion occurs, we re-

coil automatically before our conscious mind, through its other senses, has perceived the nature of the shock and impulse.) In dealing with the inflowing or afferent impulses of the human body, the mechanism of each of the seven senses should be thoroughly appreciated—hearing, vision, smell, taste, touch, pain and temperature, muscle-tendon and kinetic static. These are our seven senses.

Infectious diseases with their great variety of complications and sequelæ present innumerable neurologic problems to the physician. Of chief interest are the various forms of encephalitis and myelitis. The several outbreaks of so-called lethargic encephalitis in localized epidemics makes us aware of the fact that sporadic cases may appear in any locality. A severe and unexplained headache, with fever, with cerebral irritative symptoms, with minimal spinal rigidity or with bladder retention, should arouse suspicion. Poliomyeloencephalitis is even more widespread and insidious.

*Case 2.*—A girl of fourteen who has been spending her summer in the country complains of sore throat which disappears in twenty-four hours. Two days later she has fever which the family physician treats symptomatically. The fever does not subside, the malaise increases and on the fourth day she is slightly nauseated. Examination on the fifth day reveals beginning signs of paralysis in the right forearm and hand, and decided difficulty in her ability to use her chest muscles. There is visible limitation of expansion of the chest. All peripheral reflexes are present. The temperature is 101°, pulse 100 and blood pressure 120/70. There is no Kernig or neck stiffness, no ocular, facial, glossopharyngeal or hypoglossal nerve involvement. Lumbar puncture reveals an average of 155 lymphocytes with increased globulin.

Each year, the general practitioner may see one or more such cases. It is fundamentally an infection that destroys the cells of the peripheral motor neurones, be it the motor nuclei in the brainstem, or the motor cell group in any segment of the anterior horn in the spinal cord. The physician need not wait for the first sign of flaccid paralysis, before a lumbar puncture is performed in the suspected case. In fact, the harmless procedure of lumbar puncture is too often delayed by the general practitioner. It should never be omitted in the infectious case with cerebrospinal signs or symptoms.

The localization of the cerebral lesions frequently presents many difficulties. Tumors that develop insidiously cannot be readily discussed in this paper. Something may be said, however, about conditions that

follow head injuries and infections, for the general practitioner usually sees these from the outstart.

*Case 3.*—Mr. G., aged fifty-two, sustains a severe injury in an automobile accident and is brought into the hospital unconscious. He is bleeding from the nose and ears and an x-ray reveals multiple skull fractures. He regains consciousness in about five days, and shows no signs of peripheral paralysis. He asks for his family, and appears well oriented. However, on careful examination it is evident that he has difficulty in naming objects. He is unable to read, nor can he copy a written sentence. He understands everything perfectly, can repeat spoken words and his ability to speak is unaffected.

We may summarize the objective findings as follows: Visual impressions reach his brain in the visual speech center in the angular convolutions; the pathways to his motor speech center are blocked, that is he suffered from word blindness. The injury is readily classified; visual aphasia with subcortical alexia. Furthermore his headaches persist and become more and more localized in the left parietal area in the region of a fractured area. The likelihood of a hematoma is apparent and the need for surgical consultation indicated.

*Case 4.*—Another case is Mr. L., who has had a left-sided chronic otitis media for many years. Recently after an acute cold the discharge from the ear increases. Shortly afterward the patient suffers from constant severe headaches. His temperature varies from 100 degrees to 102.5 degrees. One morning his wife notices that his speech is confused. On examination he cannot name objects correctly. He jumbles phrases. In trying to describe the rain which he hears beating on the roof he says, "I can notice ink running in the table."

In this case sounds reach the left first temporal convolution in the brain, the auditory speech center; the patient interprets them; words also reach their goal; he knows their meaning. However, when the brain endeavors to send them on to the motor speech center, they are interrupted; a block lies in the white matter below the cortex and between the first temporal convolution and Broca's speech center. Auditory Aphasia. Here again a definite localization may be easily mapped out. Chronic otitis media, fever, headache—progressive subcortical auditory aphasia. The immediate indications are apparent.

*Case 5.*—A fifth case is that of a boy of nineteen who has had chronic pansinusitis for several years with occasional acute exacerbations. During one of these, the frontals become completely blocked. Shortly after admission to the hospital the patient

develops an epileptic seizure, Jacksonian in type. That night, several more occur at irregular intervals. The following day a lumbar puncture is done. A clear fluid under 260 millimeters pressure is withdrawn and the symptoms subside for thirty-six hours. There is no choking of the discs; no change in the special senses; no peripheral paralysis; no incoordination. Slight mental retardation in an otherwise alert boy is manifest. The temperature is slightly elevated. While being examined, the patient has another typical Jacksonian seizure. A second lumbar puncture again gives relief. Frontal lobe abscess secondary to frontal sinusitis is suspected and verified by subsequent operation.

Cortical and subcortical localizations in many instances present no great difficulties. The general practitioner encounters them in the routine of his work. Ordinarily he does not need to guess about them, if with his knowledge of nervous anatomy and tract physiology, even approximate localization is possible. There need be nothing mysterious about the diagnosis of intracranial conditions.

With business activity coming into swing again, the practitioner of medicine is frequently confronted with problems that arise from industrial accidents. The courts and industrial accident boards will continue to have a large number of compensation cases to decide. Of those involving the nervous system, two classes become the problem children of the general practitioner. On the one hand there are those cases in which actual nerve or brain injuries have been sustained and produced handicaps. On the other hand there is the challenge of that awful and perplexing group that presents no evidence of nerve injury, and which we have come to classify as Traumatic Neuroses. When lesions are demonstrable, the difficulty of estimating the ultimate impairment or functional incapacity sometimes presents a delicate task. Much more perplexing are the problems that arise in distinguishing between functional and organic diseases. Whereas shell-shock cases during the World War furnished innumerable demonstrations of this type, industry now supplies a large quota. The general practitioner as well as the expert should be equipped to differentiate the true from the spurious. Not only may he be called upon as family doctor to prove a patient's claim of handicap, but under other circumstances he may be in the position of having to defend an opinion that no injury exists.

Nowhere in the field of medicine is the physician required to make more accurate



diagnoses and to sustain them with evidence. This does not apply to forensic medicine alone. How often is a grave pathologic disorder diagnosed neurasthenia! How often is a patient suffering from a functional condition treated for a severe organic disease! In the doubtful case every known method of approach to clarify a problem must be employed. Careful clinical history, accurate observations and intelligent correlation of all factual data are essential to maintain a high "batting average." Every physician can relate examples to illustrate these statements. One case that was recently referred to me at Harper Hospital is of more than passing interest.

*Case 6.*—Mr. McL., aged thirty, complains of pain in his right eye, arm, side and leg, a staggering gait, trembling of his extremities, all of which began six months ago. Four months ago, he noticed that his speech was more difficult, and for the past four weeks, he has had twitching of his right eye and double vision. He states that nine months ago, while working on a coal hoist, a large bucket struck him on the right side and shoulder, throwing him to the ground. He had no head or back injury. Three months following this trauma, which did not keep him from work more than twenty-four hours, all the symptoms that have been enumerated developed. At the time of the examination, there is a wide tremor of athetoid type of his right arm, and a staggering gait, due principally to the fact that he cannot control the movements of his right leg. There is slight ptosis of the right eyelid, although no nystagmus can be elicited. All arm reflexes are normal and equal on both sides. The patellar, abdominal cremasteric and Achilles reflexes are more active on the right than on the left. There is no Babinski or clonus on either side. There is no past pointing on the left. The right arm movements are irregular and jerky. All peripheral sensations are normal. There is marked ataxia in performing the right heel-shin test. X-ray of the skull is negative. The blood Kahn is a four plus; the spinal fluid is also four plus, with twenty cells and positive globulin and a gold curve in the taboparetic zone.

In this case, the symptoms and complaints strongly suggest at first a traumatic neurosis. The physical examination reveals positive physical signs of organic disease of his central nervous system in no way connected with the trauma. The spinal fluid findings and disappearance of symptoms with medication dispel all doubt of the cause of the patient's complaints and solve a threatening situation. A case such as this emphasizes the necessity of the general practitioner being prepared to completely objectively analyze every problem and seek an explanation for each demonstrable deviation from the normal.

The general practitioner encounters fewer difficulties in making diagnoses of diseases arising from changes in the spinal cord.

Here he has definite tracts to deal with, afferent that carry external sensory impulses along specific pathways into the cord and to the brain; efferent that bring motor stimuli from the higher centers to peripheral motor cells in the anterior horn whence they are distributed to the muscle groups. This sensori-motor system and its connecting fibers at various levels is as nearly mechanistic as any device can be. Lesions of it permit of classification of effects which when charted determine the location and type of the disease process. Not infrequently changes in the cord develop and produce symptoms before the underlying cause is manifest. In tabes dorsalis, lightening pains, girdle sensations, and visceral crises are all too frequently treated for neuritis, dyspepsia, ulcer and gall bladder disease, when an examination of the patellar or Achilles reflex, the gait, the Romberg or the pupils would reveal a central nervous system syphilis. Paresthesias and gait difficulties may be the first symptoms of a hyperchromic macrocytic anemia (pernicious anemia). Spastic phenomena, sensory changes and loss of vibratory sense, evidence of posterior lateral tract degeneration, may be demonstrable at the same time that the blood examination reveals the etiological factor. It is important, therefore, that the physician tries to associate sensory symptoms and motor difficulties with visceral disease in any of its manifestations, and remembers that all neurologic conditions in which the affected pathways can be mapped out are capable of classification.

This paper is intended to develop the evidence that it is essential that the general practitioner be familiar with the conscious neurologic mechanism of the human organism. Therefore, the sympathetic and parasympathetic nervous system, its regulation of the respiratory and cardiovascular mechanisms, its control of the gastro-intestinal and genito-urinary tracts, its influence upon the glands of internal secretion, does not belong in this discussion. Nor is this the place to elaborate the thesis that the general practitioner should maintain an interest in psychology and psychiatry, be familiar with behavior problems in children, emotional disturbances in adolescents, and conduct and adjustment problems in adults. These, however, may all concern him in family practice. From a broad viewpoint the general

practitioner should see life as an integrated whole, in which the natural processes are visualized in a complete anatomy and an associated physiology.

Diseases and functional disturbances of the central nervous system are but a corollary of an entire problem of which he must be the master.

## NEUROTIC REACTIONS IN MARRIAGE\*

H. A. REYE, M.D.†

DETROIT, MICHIGAN

Ours is a neurotic age, an age of change and unrest. Many would like to return to the security of the past, but that is impossible. Nor is the immediate future promising, for it seems that we are only in the beginning of a prolonged period of social, cultural, and economic readjustment. All our institutions are showing signs of strain and inadequacy. This naturally affects the ancient and honorable state of matrimony as much as any. Now, it happens that of all human relations, marriage is the most difficult. So much is necessary in the way of adjustment and coöperation, and so great is the intimate and rather continuous contact that it brings out all weakness, warping, and immaturity of personality which the ordinary, social relations do not disclose.

In the past, strain in marriage was not so severe, for in primitive and patriarchal societies everything was rigidly regulated by taboos and traditions. Little thought was necessary. There was little independence, and tendencies toward individualization were repressed. In recent centuries man has studied nature and learned to control it through scientific methods. Life has gradually become more complex and the rate of change more rapid. While he studied everything in the external world, he had, however, continued to take himself for granted. It is really only now, when ancient patterns of thought and action are failing, that he is compelled to understand himself. As a consequence, he is becoming more self-conscious and self-assertive. He is beginning to glimpse a new vision of independence, self-reliance, and maturity.

While masculine thinkers arose in ever greater numbers, women were nevertheless expected to remain in obscurity and to be their husbands' echo. Man has resisted the individualization of woman. Unconsciously

he continued his emotional, patriarchal attitude toward her. Even now this holds largely true. Here in America during the pioneering days women were scarce and highly valued. They labored on a basis of equality and partnership, which made for contentment and mutual respect. In the broad expanse and freedom of the New World the old patriarchal standards were out of place and not in keeping with democratic American thought. It is not surprising, therefore, that during the past fifty years woman has asserted herself increasingly and man has yielded, albeit grudgingly. Woman is still continuing her fight for individualization, for recognition to obtain a position of equality and to achieve a real partnership.

In fighting man, she has adopted man's ways and has developed the masculine side of her nature more than ever before. Since she now overvalues the male qualities, she naturally underestimates, and often despises, her feminine characteristics. In doing so, however, she is not resting upon a secure physiological basis, and consequently, cannot find on that level contentment or peace within herself. It would seem that the battle between the sexes must continue for some generations. Only when the male relinquishes ancient prejudices and patriarchal attitudes and woman feels honored and accepted as a partner, will she be sufficiently secure to dare return to her own self and

\*Read before the Wayne County Medical Society, November 19, 1934.

†Dr. Reye is a graduate of the University of Michigan Literary Department 1910; in Medicine, 1913. He subsequently specialized in Neurology and Psychiatry and is now Professor of Nervous and Mental Diseases in the College of Medicine of Wayne University.



develop the feminine qualities to their fullest extent.

Marriage, naturally, suffers most in this conflict. The entire marriage relationship is dynamically and emotionally overloaded. Much that formerly, in the way of support and security, was found in custom and authority is now demanded of the husband. Much that formerly went in the way of ideals and aspiration, into religion and worship, is now projected upon the marriage partner. Formerly the force of tradition, faith, and authority was so great that marriage was entered upon with a good deal of humility and acceptance of its permanence. No doubt this led to much individual suffering, but it gave a definite stability to the marriage bond. Now, at the present time, suffering is no longer exalted as a virtue, and there is much of observation and critical thinking about self and one's mate. In the early stages it takes the form of realizing the flaws and faults of the marriage partner. Projection is a universal mechanism, for "it is so much easier to see the mote in the other's eye than the beam in our own."

We have assumed the outer forms of individualization without developing its inner props. We insist upon being treated as mature and independent personalities, but most of us are far from the stature of adulthood. It is really surprising how much there is of emotional immaturity and downright childishness even among those of us who have thought and have some right to feel that we have achieved a measure of maturity. These emotional attitudes are so much a part of ourselves that we are generally quite unconscious of them. Nevertheless, we are sensitive concerning them and react automatically and often intensely when they are activated.

Formerly marriages were arranged, and usually the parents gave a good deal of thought to the matter of physical health, temperament and education, as well as to the social and religious background. Now we rely largely upon the penetrating powers of infatuation! Usually these emotional ecstasies touch off the dream of an ideal that we built up in childhood. The individual with whom we fall in love in some ways fits into our fantasies and our deep emotional, and often childish, needs. There is an upsurging of powerful feelings from all levels, even

from the infantile, as is shown by the baby talk in which lovers frequently indulge. The novel, the movie, the radio also help to fill the imagination of the young with fantasy and romance far removed from the facts of life. But in the realm of dreams there is no constructive thought, and as a consequence, when, after marriage, reality destroys the rosy clouds of imagination and fancy, we frequently come to with a sickening thud. Great is the shock and disappointment for many when the facts of life displace the glamor. Some never recover. Some never see, and many refuse to see, the facts as they are. The change that has taken place is usually projected upon the marriage partner. He or she is blamed, and an attempt is made, according to the temperament, to force the partner by nagging, razing, whining, pouting, crying, martyrdom, or temper tantrums back into the rôle of the glamorous ideal.

Now, all life is really a growth in the time dimension, and growth means changing adjustments to the forces that press upon us as individuals. Our consciousness is really an awareness of tensions resulting from our needs and conflicts. They demand elimination by adjustment. Much of our life is therefore spent in effecting compromises to eliminate these conflicts and tensions. Usually flexible compromises result, permitting more complex psychological and social adjustments with the passing of years.

Our personalities are really developed between two sets of forces often violently in opposition to one another. Our bodies bring with them definite hereditary, instinctual forces, appetites and desires. Upon them depend health, temperament, and largely the disposition of the individual. Our social order, on the other hand, tends to curb the instinctual demands and force us into conformity and coöperation. Our personality, our ego, our reality sense, whatever you wish to call it, is really developed between these two poles. It continually has to make adjustments between this pair of opposites and steer a middle course. If it yields wholly to one side or the other, there is no true individuality, no possibility for independence or maturity. If the ego makes common cause with the instincts because it is too weak, or the instincts too strong, then, to be sure, it is merely a tool, an instrument of these drives, and the individual is very likely to become

psychopathic, anti-social, and drift into the underworld or the criminal ranks. If, on the other hand, the ego yields too greatly to the social forces that are built into us in the shape of automatic, inhibitory attitudes and conscience, again no true personality development can take place. We are then too greatly dependent upon the sanctions and approval of others. We are not free. We try to appease, we fear, we worry; we lose much of spontaneity and joyousness.

The capacity for the introjection of social attitudes and the building up of inhibitions varies tremendously in people. No doubt it depends a good deal upon constitutional factors and the severity of the social pressure. Now the neurotic is peculiarly prone to excessive development of these social attitudes or conscience. As a child he is generally sensitive and fearful and, therefore, more easily subject to psychological traumatization. Strange to say, this may be produced by too much love and coddling, or by too much coldness and severity. Neither allows the development of independence and self-reliance. Some sort of compromise is generally effected between the instinctual urges on the one hand and the repressing social forces on the other. Usually both tendencies find an equilibrium and expression in this compromise. Sometimes such premature pathological crystallizations or adjustments continue through a lifetime. We see them in individuals who are controlled by profound attachments to one of the parents with all of its concomitant dependence, indecision, devotion, childishness, and inability to marry. These frequently face a complete nervous breakdown with the death of a beloved parent, unless they can find a partially satisfactory substitute. Often the physician is forced to act in that capacity.

There are many more in whom these premature pathological compromises are covered over by a thin layer of outwardly satisfactory adjustments on the intellectual and social levels. Many people wear such a mask. Beneath this mask the attitude of dependence is not often apparent or is represented by its opposite of coldness, misunderstanding, and hate. The dominant emotional tones of our life, the choice of vocations and marriage partners, all these are largely determined by these strong affective attitudes. In marriage the strain of effect-

ing compromise and coöperation is often very great. Irritations and tensions are bound to occur. With the passing of time the more superficial forms of polite and affectionate relationship easily wear thin. The fatigue states that result sooner or later lead to a failure of the semi-mature intellectual patterns, and a regression to the older, emotional, automatic attitudes. Usually one of the marriage partners is less secure, less mature, and it is this one who gives away first to neurotic behavior. Sometimes we have a double neurosis, both partners being affected.

Neuroses, in general, may be defined as pathological behavior patterns which are out of time and place. They are regressions to earlier levels of reaction, and, in the adult, are evidence of a division within the self and a lack of inner cohesion and strength. Such a man tries to conform to the demand of society more than the strength of his instincts permits. In other words, he desires to be more respectable than he really is. Probably the majority of the neuroses result from the imitation of neurotic behavior seen in parents. It is in this manner, usually, that faulty conditioning and negative attitudes toward sex are developed. In the recent past, and even at present, sex, and all that pertains to it, suffers most from social pressure and consequent repression. In our childhood sex was not discussed, and in many homes even now it is treated furtively and as something mysterious. Frequently it was, and sometimes still is, surrounded with feeling tones of shame and disgust. If the constitutional drives are weak, these attitudes make any normal, healthy, and beautiful development impossible. If we realize this situation, it may not be so surprising to us that even at the present time a large percentage of our women are frigid. Nor must we forget that a fair proportion of men are partially, and some wholly, impotent.

Since, by inhibition, the motor outlets of sex are blocked, tensions resulting from intimate relations lead to anxiety and discharge of the fear emotion through the usual or unusual channels; attacks of palpitation, dyspnoea, and choking are not uncommon. Sometimes the reaction of disgust is so strong that emesis occurs. The very fear of sexual stimulation and contact



may produce a vaginismus that will make coitus impossible.

Since the occurrence of these manifestations has a decided tendency to check the amorous ardor of the husband, they acquire a secondary value of protective usefulness. It is in this manner that neurotic reactions arise and are continued as symptoms because they work. The neurotic acquires the status of an impaired individual in need of special consideration. Not so much can be demanded in the way of adjustment, and often, through this very weakness, he or she acquires a position of dominance and ascendancy that may keep the mate and the children in subjection.

Frequently the anxiety attacks are misdiagnosed as heart trouble, and through fear of provoking attacks that might lead to mother's death, husband and children are kept in line to an unusual degree. Often the emotional tensions are gastric or abdominal in their distribution.

I remember a case in which severe gastric and emotional upsets occurred in a woman when she learned that her husband was unfaithful. The latter in turn became tremendously alarmed about her when he was told that she had a hole in the diaphragm and that excitement and upsets might cause strangulation of the bowel. From that time on she kept him in complete subservience, for any frustration of her wishes was prone to precipitate a recurrence of her attacks. Through this same mechanism she caused her two sons to break off repeated engagements and tied them to her by a selfish love and their erroneous sense of duty. It is by no means uncommon that husbands or wives are kept in line by their mates through emotional outbursts, depressions, threats of divorce and suicide, yea, even dramatic attempts at suicide!

As time goes on we see less and less of the old time hysteria with somnambulism—arc-de-cerle—fainting spells, paralyses, blindness, and aphonias. Somehow that neurosis is going out of style. People know too much about it.

At present one encounters much more frequently fatigue, anxiety, and character neuroses. The individual somehow tries desperately to maintain an adjustment on a level of independence and maturity which is beyond him.

Frequently, when tensions and scenes

arise between the marriage partners, one or the other will fall back upon time honored mechanisms effective in childhood; namely, whining and pouting. The whiner feels greatly abused and filled with self-love and self-pity. Often there are whining and crying spells which last for days, until finally the mate gives in. The pouter is even worse. There is the desire to be loved and self-pity combined with anger. Such spells may last days or even months.

More or less unconsciously there is a struggle for supremacy in every marriage. In patriarchal times man was the accepted ruler. He could order, he could boss, he could rage, and compel instant and unquestioning obedience. Now all this is out of time and place. Such behavior in our day is considered a sign of immaturity and inadequacy, a compensation for underlying inferiorities and fixations. What a blight such a father is upon growing children! How he stunts their growth and struggle for independence! Such a narcissist only gets along with a mate who is thoroughly masochistic or with one who is unusually mature and will make the necessary adjustments for the sake of the children. In these days of aggressive femininity the struggle for supremacy and power is greatly accentuated. A good many marriages can be truly spoken of as battle marriages, so evenly matched are the couples and so prolonged is the conflict. It is not surprising, therefore, that Michigan statistics show one divorce for almost every three marriages! Man now must indeed be masculine and adequate, otherwise he will be vanquished by his assertive mate and forced into the role of a despised and more or less henpecked husband. Should the man find in this position of inferiority a repetition of subservience, irresponsibility, and devotion that he had for his mother, the adjustment may be reasonably satisfactory, particularly so if the woman enjoys the masculine role. Should she, however, despise the man for his weakness, she may, by nagging and razzing, unconsciously attempt to force him into greater masculinity and so precipitate frequent scenes and battles, followed generally by amorous reconciliations. This procedure may become a well established action pattern whenever there is monotony, discontent, or dissatisfaction. The constant pressure on the man may lead to inferiority feel-

ings and unhappiness, which may cause a flight into drinking, unfaithfulness, and quite often, a refuge into overwork. For there he may regain some of his self-respect and feelings of personal worth. Furthermore, by the increased earnings he may shower his wife with gifts or money and so secure from her greater indulgence. Such an individual, however, is under constant tension and generally is filled with anxious expectation. He is a chronic worrier. Eventually he has a nervous breakdown, characterized by the usual symptoms of fatigue, mental depression, insomnia, difficulty in concentration, irritability, instability, and disturbance in bodily function. It is upon these possible organic factors that he usually concentrates his attention in order to avoid the stigma of being considered neurotic. Somehow people still look upon neuroses as a disgrace, as something imaginary and unreal. It is true that the conflicts of a neurotic and the psychological factors involved are difficult to understand. It is so much easier to form a conception of a broken leg or of a gastric ulcer. As a psychiatrist, I can only say that this general lack of understanding is unfortunate. From my experience, I would consider the neurotic who, hounded by anxiety, is desperately doing his best to be often an unusual individual. He is generally possessed of a scrupulous degree of honor and a conscience that is too severe and tyrannical. All too often he continues to drive himself until he cracks up.

Frigidity, so common as previously mentioned, is evidence of a definite neurosis—of inhibition and fixation at childhood levels. Thoughtless husbands frequently belittle their frigid mates. Thereby they strengthen the fixation and induce feelings of inferiority that may cripple and depress for life. Many compensate for their inadequacy in the sexual field by becoming finicky and overly neat housekeepers. Everything must be just so, making it impossible for anyone to be really comfortable. In this manner they re-establish the feeling of adequacy and superiority, flaunting their own neatness in contrast to the so-called untidiness and annoying carelessness of the husband. Other women of this type try to maintain love and esteem by throwing themselves into overwork. They become martyrs, trying to win and tie husband and children

to themselves by devotion and slave-like service. There is a definite compulsion element about these reactions. All those who are addicted to overwork do so under the pressure of compulsion. The more pronounced phobias and compulsion neuroses are not so common. In them, too, we have the presence of repressed and repressing factors, only they are more split off and automatic in character, so that they are felt by the patient to be alien, irrational, and unreasonable.

There are also compulsive factors in other types of neurotic behavior. Many a man who boasts of his masculinity, aggressiveness, and numerous conquests is, after all, only an amateur Don Juan or Casanova, for he too is compensating for partially felt inadequacies. When analyzed, we discover that he is tense, insecure, and forever running away from the danger of homo-eroticism. His boasts and conquests are, therefore, only attempts to convince himself of his masculinity. Many of them find relief in drinking, for in this way the suppressed impulses may obtain partial socially acceptable expression in friendly confidences, backslapping, and the singing of "Sweet Adeline."

Nor are the ladies without a comparable reaction, though generally the mechanism rests on a basis of narcissistic immaturity. Many live on the surface of things. They have little depth or capacity for other than selfish thought. They must be on the go, entertained, and flattered. They are the eternal adolescent, who cannot face age or its necessary adjustments. Marriage cannot satisfy them, for it is impossible that one man can give them all they want. Their basic inadequacy is compensated for by pleasing and charming men, by making conquests, and making other women jealous. They are eternally restless and dissatisfied. Usually all this tension is projected on the husband and family. There is no peace in their homes and children raised in such atmospheres are bound to suffer. They are all too liable to copy the unstable behavior, the selfishness, as well as the discontent.

There are many other women who do not belong to this extreme type who are, nevertheless, discontented and mildly neurotic because they have not enough to do. In these days of increased leisure many a woman's life is not filled sufficiently. Daily bridge,



the constant need for diversion, and search for pleasure only lead to a sense of eventual dissatisfaction and emptiness. Most of our women have not as yet filled the gap between the past and the present. They make great pretensions to the rights and freedom of maturity, while emotionally they still long for the special consideration and devotion of a chivalrous age. The inability to produce a synthesis between the dreams and fixations of childhood, on the one hand, and the demands of adult responsibility on the other, is one of the most common causes of a split that produces neuroses. A good example of this is the following case:

Years ago a married couple came to me with their troubles. After a fairly happy honeymoon the husband became irritable and disgusted with her inefficiency and pouted for days. She was disappointed and disconsolate and cried for months because her Prince Charming no longer worshipped, flattered, admired, and waited upon her. Her Princess dream of married life had all been so different. From early childhood she had dreamt of the luxuries and social activities which wealth would provide. However, in spite of the means of the family, the husband expected her to be as active and adequate as his mother had always been. And, when, in addition, she was confronted with an immediate pregnancy, she broke under the strain and was depressed for months. With guidance, increasing understanding, and reassurance she made a fair readjustment, but beneath the surface there still lurks disappointment, self-pity, and a feeling of having been cheated. Much of her energy is still used to keep this in check, so that even now she is not as efficient as her husband would like her to be. He, however, has learned tolerance and understanding. Things, therefore, go better.

Often without complete analysis it is impossible to eliminate the disastrous effects of negative conditioning of early childhood.

During the height of the depression a successful business man came to me because of nervousness, anxieties, insomnia, and mental depression. He had lost much and felt that he had ruined his life, that he was no good and would never again amount to anything. At times he even thought that he ought to suicide to give his family the benefit of his life insurance. He recalled an unusually

strong devotion to his father, whom he both loved and feared because of his qualities and physical prowess. The father, however, was dissatisfied with the little son, who was weakly and puny in childhood. He often would repel the child's advances, saying, "Oh, run along, you're no good. You'll never amount to anything. You'll never be anything but a bum or a hobo." The boy brooded over these outbursts of disapproval and felt sorry for himself. Often he thought of running away and taking up the life of a hobo. Within himself he developed a feeling of insecurity, of unworthiness, disapproval, and failure. Later on, by reason of his intelligence, he was very successful in school and college. He labored prodigiously and amassed money in order to gain a sense of security. However, he always had to work under someone whose approval and praise meant even more than the money he earned. At home, too, he was not aggressive. He forced his wife into assuming all responsibilities. He was always worried and fearful; he had misgivings about everything. If things went well at one time, he looked forward to disaster at another. He had no inner security, and was not independent or self-reliant. The feeling of doubt and ultimate failure, implanted in childhood, hounded him through all his years, making contentment impossible. Only after intensive psychiatric treatment was increasing understanding effected and readjustment brought about.

One could go on for hours citing examples of neurotic behavior in marriage, for, after all, it is Life itself and, therefore, inexhaustible. There are those who maintain that marriage has outlived its usefulness and that it will disappear. Even conservative thinkers admit its faults and weaknesses, but they realize that these are inherent in ourselves and not necessarily in the institution. Personally, I foresee no early radical change or improvement in the marriage situation. That can only come gradually through education.

A number of fallacies must first be eliminated before marriage can rest upon a more secure and wholesome basis. There is the feeling that we are entitled to happiness and the expectation of realizing it through marriage. Somehow, it is a general belief at present that the world owes us happiness. Nothing is further from the truth. Given

creature comforts, happiness can come only from within. It must rest upon adequacy, inner harmony, and spontaneity. When projected outward, it realizes itself in the acceptance of responsibilities and satisfaction in real achievements. The more mature individual knows that all things, happiness included, are relative. Few things can be so stale as a so-called happy, uneventful marriage. There must be ups and downs, there must be states of variable tension and distance. All things have meaning only in relation to their opposites. So, even in marriage, joys and suffering must alternate to maintain interest and significance.

There are still some people who think Love will conquer everything. This may be true of the Saints, but not of the average of humanity. Some still feel that Love can reform ne'er-do-wells and criminals; that it can bridge the marked physiological and psychological disparity in age; span marked contrasts in education, temperament, and background. All of these misconceptions must be gradually eliminated.

The worst of all fallacies, and the least understood, is the sense of possession, the feeling that the partner belongs to us body and soul, that we have rights. It is this fundamental error which makes of so many marriages such a burden and such a tragedy. There are no rights as such; there are only privileges which we must earn and maintain. We must strive for the elimination of force and dominance resting on childish mechanisms.

And last, there is the perfect romance of which so many dream. Now, day dreams are safety valves. We cannot dispense with them altogether, but we should know them for what they are and not expect to translate the impossible into reality. "If neuroses are to be diminished, the infantile fictions that drive us into them must be skillfully displaced by mature realizations. The myth of the great and perfect romance must be replaced by the acceptance of a hard-won, dearly bought, hard-to-keep human relationship with a member of the opposite

sex. The expectations of happiness, of being adored and worshipped, of living happily ever after, must be supplanted by the facing of facts, by real achievements, supplemented by such pleasures as the writing of a poem or the painting of a picture for the relief it gives us. The dependency upon praise and the fear of censure, heritages of childhood, both must be laid aside." We must become less sensitive, more objective and impersonal.

These, and many other things, must be taught to all young people, preferably to everybody. A few schools are giving courses now. These should really become universal. Then only can the institution of marriage function increasingly as it should. Marriage entered into with sufficient preparation and perspective of its responsibility and meaning may become, as in some cases it already has, the greatest factor in adult education and in the development of a well-rounded personality. In marriage we cannot live wholly unto ourselves. The more we are successful in coöperative living, the more we transcend ourselves. We see larger purposes, we interest ourselves in art and other cultural aims, in causes and spiritual ideals.

The marriage relation must be built upon mutual respect and coöperation. It will bring both joy and suffering, for marriage can never be without strain or conflict, but these among increasingly mature individuals will be settled more and more on the level of intelligence and not on the level of feeling. Through these experiences we will achieve greater harmony and understanding. This is the ideal toward which humanity must strive, for it is only in such an atmosphere that children can be trained to steer a middle course between the instinctual urges and social demands; trained in honesty, self-reliance, joyousness, and increasing responsibility. Thus alone can character be properly formed and men be prepared to assume the correct social attitudes and so achieve the necessary balance between social justice and individual freedom.



## SOME OF THE CHANGES FOUND IN THE EYES, IN THE CONTROL AND TREATMENT OF WHICH THE GENERAL PRACTITIONER AND THE EYE PHYSICIAN SHOULD COÖPERATE\*

THOMAS D. ALLEN, M.D.†  
CHICAGO, ILLINOIS

The most important of these changes are those found in the background of the eye, the so-called fundus or eyegrounds. When in the middle of the last century the ophthalmoscope was invented, a new means was opened to the medical profession to help their patients. The study of changes in the lens, vitreous and background of the eye has resulted in many volumes of new literature. Much of this new knowledge is in regard to the vascular tree, for with the ophthalmoscope we have been able to see and study in life arterioles and venules so fine that they cannot be seen except as faint lines after the eye has been removed.

The optic nerve-head is from 1.25 to 1.5 mm. in diameter. If you imagine it magnified eight to ten times you will at once understand why it seems so large when viewed with the ophthalmoscope; and why details, which with the naked eye are quite invisible, can be studied carefully (Fig. 1). The veins and arteries each form a vascular tree, the vessels usually roughly paralleling each other. The veins are darker because they carry venous blood. These vessels can be traced out a long distance by the examiner by a simple movement of the head corresponding to the movement one makes in looking through the porthole of a steamship.

At the disc the average artery is actually less than 0.2 mm. in diameter. Normally it can be traced till it is scarcely 0.01 mm. in diameter. Here then the man who is trained to use the ophthalmoscope can see changes in the vessels, some of which Dr. Stieglitz has spoken of.

When we take a thin section of an eye passing through the nerve-head, we can see the relation of the artery to the vein (Fig. 2). Both vessels are held in very firm tissue, tissue which does not "give" much, and although they have sheaths, a plaque of thickening of the arterial wall may cause embarrassment to the return flow in the vein, and eventually impede or stop its flow

as we will show later. Also swelling of the meninges or meningeal spaces in the nerve by cerebrospinal fluid under pressure as in certain brain tumors may also cause passive congestion. The mechanism is illustrated by Figure 3.

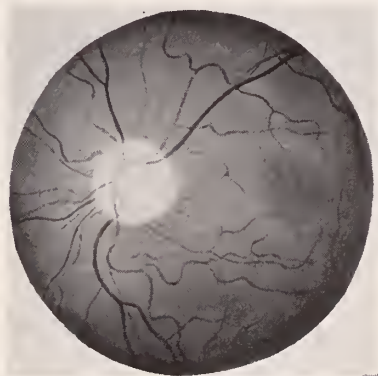


Fig. 1.

This is to be differentiated from an optic nerve inflammation—an optic neuritis (Fig. 4). It is not always easy to do this. Often careful field studies must be made, especially of the central visual fields. In choked disc the central vision is not affected early, whereas in optic nerve inflammation it is. This is due to the fact that the nerves to the central fovea are most highly differentiated and therefore are more susceptible to toxins. Optic neuritis is an inflammatory affair whereas choked disc is a pressure phenomenon. In optic neuritis we have evidence of disease elsewhere in the eye or in the body or both; therefore, the eye physician is constantly looking to the general physician for help. The cause may be a simple focus of infection as the teeth, tonsils, prostate, etc., or it may be a general in-

\*Read before the Highland Park Physicians' Club, Detroit, Mich., Dec. 5, 1934.

†Dr. Thomas D. Allen is a graduate of Rush Medical College, 1915. General internship and subsequent residency Eye, Ear, Nose and Throat service, St. Luke's Hospital, Chicago. Assistant and later Associate Wm. H. Wilder, 1917 to date except for nineteen months in service. Base Hospital No. 13, World War. Sigma XI in physiology, University of Chicago. He studied abroad, Vienna, Budapest, etc., 1926 and 1930. He is Associate Clinic Professor Ophthalmologist, Cook County Hospital; Assistant Attending Ophthalmologist, Presbyterian Hospital; Attending Ophthalmologist Illinois Eye and Ear Infirmary; Assistant Secretary American Board of Ophthalmology; Member American Ophthalmology Society; Secretary of Chicago Ophthalmology Society.

fection as lues, tuberculosis, etc. When other parts of the eye are involved the affection may be an iritis or cyclitis or choroiditis; if the anterior uvea shows evidence this is usually in the form of precipitates on the back of the cornea (Fig. 5).

Sometimes a simple hypertension without material sclerosis, such as Dr. Stieglitz spoke of this morning, is first found by the eye physician. Here is a case we saw together:

L. S., a man fifty-one years of age, was first seen by me in May, 1932, when he stated he had had blurred vision of the right eye for two years; four weeks before a black spot appeared before that eye, and after he rubbed his eye a general mist very much obscured his sight. There was no pain.

R.V.—3/200

L.V.—with glasses—20/20+

There was a thrombosis of the right superior temporal vein with extensive hemorrhage. In Figure 6 is shown a thrombosis of both superior and inferior veins. The vessels of the retina are all end vessels; there are no anastomoses except when new vessels are formed. Therefore when a vein is thrombosed blood enters the tissues and cannot get back, so that extensive hemorrhages form between the percipient layers and the light. When he rubbed his eye he undoubtedly caused greater dispersion of this blood and therefore he seemed to see a diffuse cloud before his eye. The main hemorrhage, being from the superior temporal vein, began to descend due to gravity, and soon covered the macula, thus very greatly reducing his sight.

In this case we could trace the early changes by examination of the fellow eye. Here we noticed a moderate engorgement of the retinal veins where they were crossed by the arteries (Fig. 7). The vessel walls were not noticeably sclerosed but where the arteries passed over the veins, it caused enough impeding of the circulation so that the veins distal to the crossings were more dilated than proximally. (Distal on the veins is proximal as regards the flow of the blood.)

This must be differentiated from a real sclerosis of the retinal vessels such as is shown in Figure 8. Here the arterial column varies in width (sclerosis of a wall is seldom uniform) and streaks along the vessel show the arterial wall is sclerotic.

Naturally I referred Mr. S. back to his physician. [Let me digress a moment. Suppose I had referred him to an advertising irregular practitioner who promised a free examination and assured me he knew all about such things! Some doctors refer their eye cases to optometrists and jeweler opticians because they advertise free examinations and assure folks they know all about such things.] As a result of his study of the case Dr. Stieglitz has explained the thrombosis and hemorrhage on the basis of an essential more or less spastic hypertension. With reduction in his blood pressure the embarrassment to the return of the

venous blood in the retina was reduced, and further complications averted.

Diabetes is occasionally first found by the eye man. There are two types of changes in the eye produced or aggravated by uncontrolled diabetes: (1) cataract and (2) retinitis.

G. P., a man, eighty-two years of age, was sent to me by Dr. George Coleman. It was difficult to see the fundus at first due to a great cloud of fine vitreous dust; this cleared in time (possibly iodides helped) and then we found many fine hemorrhages, and a few small grey white spots about the macula, such as our Figure 9 shows. I referred him back to the doctor who sent him to me. He found diabetes and treated him; but the patient was set in his ways and often refused to abide by instructions. During the next three years I saw him with three fresh crops of minute hemorrhages in each eye, each time following a dietary spree.

The white or grey or yellow, rather sharply outlined, spots so frequently seen in diabetes, with or without demonstrable sclerotic changes in the fine vessels, rather characteristically become grouped about the macular region in an ovoid or circular form. We term this circinate retinitis. It is seldom seen in any other disease.

Sclerosis of the retinal arteries or arterioles is characterized by irregularities and angularities of the blood column, very fine corkscrew twistings of the finer vessels, and streaks along the vessel. A normal vessel wall cannot be seen; what we see and call an artery or a vein is only the blood in the artery and vein. When we see irregularities of the blood column we know something impedes the smooth flow in the vessel.

I don't suppose there ever was a case of sclerosis of the vessels of the retina only. Often kidney damage is so severe that a toxemia exists which affects the retina in a very interesting and characteristic manner—the so-called “star-figure at the macula.” With this you are all familiar. I'd like to illustrate a slight variation of this type of lesion.

H. A. D., a man fifty years of age, was referred by Dr. John McClellan; when I first saw him in March, 1927, he had been under treatment for high blood pressure for some three and one-half months. Two and one-half months before he had had his eyes examined by a competent eye man who unfortunately scared him by telling him he had hemorrhages in the retina and probably kidney disease. He had his tonsils removed and consulted another eye physician who also scared him.

His blood pressure was around 200, and his eye-grounds I described in these words: “The disc is swollen and indistinct in outline, due to a serious exudate; the veins are swollen and tortuous, and are





I think the older we grow the less inclined we are to frighten patients. Usually when a patient needs frightening I call in a consultant and tell him to do it!

Tubercles of the choroid are not infrequent. About a year ago I saw a patient of my chief, Dr. Wm. Wilder, who has kindly permitted me to report it to you.

A girl, B. D., fifteen years old, had complained of a spot before the right eye for a week. The vision was reduced to 20/200 and mutton fat-like precipitates were found on the back of the cornea. After dilatation of the pupil, the fundus could be seen with difficulty because of the exudate in the pupillary area and vitreous. Near the disc (nearer than x, Fig. 11, shows) was a grey mass nearly the size of the disc, with very blurred outline. There were no hemorrhages or other exudates in the fundus. As the cornea became clearer, the grey mass near the disc was seen to be gradually increasing in size; and finally petechial hemorrhages and exudates appeared on and near it.

During this time a thorough physical examination had been given her. There was a questionable sinus infection (Dr. Walter Theobald). Speaking for tuberculosis from the general standpoint, Dr. Earl Gray said were (1) slight afternoon fever; (2) rather poor development of the muscles about the right apex; (3) positive mantoux test. Under rest and tuberculin therapy the lesion has quite resolved and the patient has normal sight except for the areas opposite the destroyed retina and choroid.

Tuberculous eye disease is not seen so frequently now as formerly due to the very considerable lessening of phlyctenular disease and the so-called scrofulous diatheses. Tuberculous iritis is not very uncommon (Fig. 12); but of less frequency is the tuberculous corneal inflammations of the interstitial variety which are almost indistinguishable from that of syphilis (Fig. 13).

I've recently seen, and have now under observation a case I believe is a tuberculous interstitial keratitis although she had a positive Wassermann. She is a foreigner and has been under intensive anti-leucic treatment for over two years merely because of positive serological tests. As important as these tests are, with all their refinements, they should not take the place of careful clinical observation.

Mrs. H. D., aged thirty-two, was first seen early in August, 1934. She had had six weeks of treatment very recently. Now the Wassermann test gave negative results, but the reaction was Kahn ++. At the first visit there was a moderately severe grade of iritis which was associated with a typical episcleritis near the limbus and later an infiltrate in the nearby cornea. As the episcleritis began to fade under treatment, the infiltrate advanced into the cornea, and then, within a couple of weeks, began to clear from behind, with only a very few fine deep vessels growing into the substantia propria for a very short distance (1 mm). The pupils

were widely dilated and careful search made in all parts of each fundus.\* No changes were found such as is rather common in syphilitic interstitial keratitis. (Syphilitic interstitial keratitis seldom begins with an episcleritis.)

This patient almost always has a little fever—seldom over 99.4. Her doctor would not coöperate, being positive that lues was the correct and only diagnosis. X-rays of her chest were suggestive of healed childhood tuberculosis.

Very cautiously I gave her small doses of tuberculin (O.T.) and found she reacted locally in the arm, focally in the eye, and generally with an increased fever, to rather small doses. She was then given very small and slowly increasing doses of B.E. intramuscularly, until she had a real local and general reaction; then the doses were cut to 1/100 of the reaction dose and again increased.

Generally she feels much better, is stronger, sleeps better and eats better. We feel confident that here we have a tuberculosis of the eye; possibly combined with a general lues.

In another case I question the diagnosis of tuberculosis:

H. W. N., a man, thirty years old, was first seen two years ago when in routine examination for glasses a silent iritis was found. There was a sprinkling of very fine particles on the back of the cornea; and a few weeks later a tumefaction appeared at the nerve-head, quite resembling a tubercle. A very thorough general examination done independently by several good internists and the Mayo clinic, gave us no help at all, though Dr. Benedict thought it was a tuberculous process. The patient seemed to be remarkably healthy. Small and large doses of various tuberculins, Human, Bovine and the new preparation from the Phipps Institute were entirely without effect. Other foreign proteins, sodium thiosulphate (with and without gold), etc., were likewise of no help. He had a slight non-specific prostatitis; a vaccine has been made and is being given him now, but I fear we have not yet located the etiology.

Optic atrophy may be primary or secondary. If the latter, there has been a previous neuritis or inflammation of the nerve-head; when this heals usually connective tissue is left behind, filling the physiological cup or blurring the disc outline (Fig. 14); or else tell-tale new vessels are found. Occasionally, however, an active optic neuritis (Fig. 15) may subside and be followed by what seems to be a primary atrophy (Fig. 16). Such was the following case:

Miss L. J., aged twenty-five years, was first seen in February, 1928, at which time the R.V. was only counting fingers while the L.V. was normal. The poor R.V. had come on twenty days before. All the symptoms were typical of retrobulbar neuritis—dimness of central vision growing worse, tenderness on pressure and pain on moving the eye. The inflammation had progressed peripherally so that when I saw her she had a frank optic neuritis with 2D. swelling at the disc, hemorrhages and exudates. She had an accompanying acute sinus which was drained; and several dead teeth, which were normal



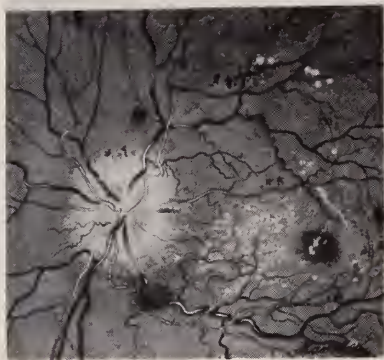


Fig. 10.

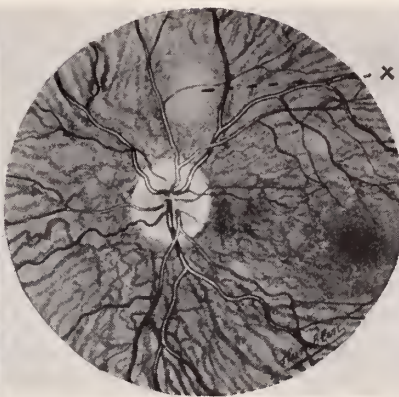


Fig. 11.



Figs. 12 and 13.



Fig. 14.

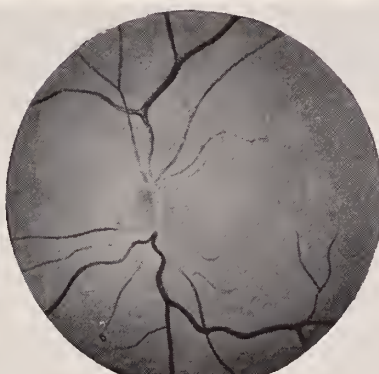


Fig. 15.

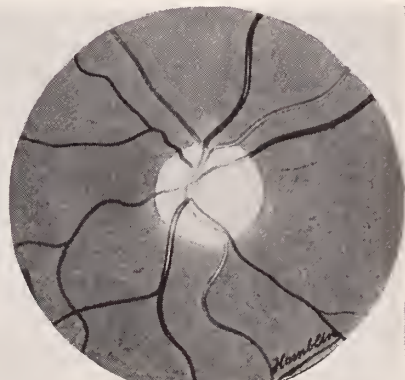


Fig. 16.

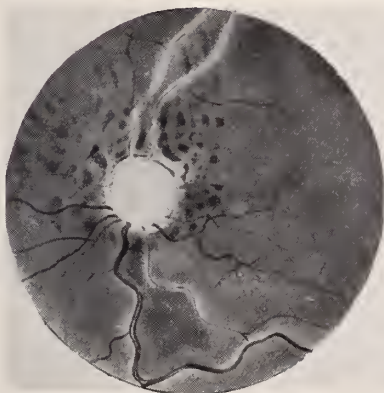


Fig. 17.

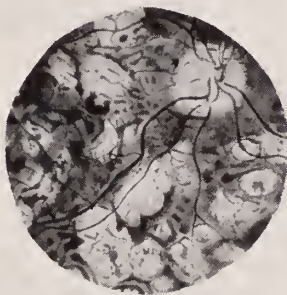


Fig. 18.

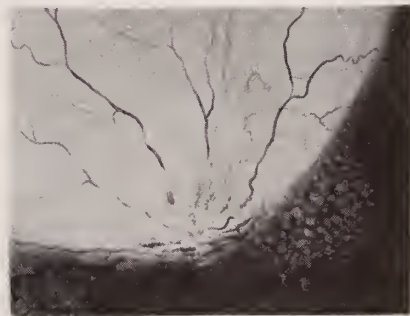


Fig. 19.

to x-ray, were either removed or treated by excision of the root end.

The relief was immediate, the vision returning within about two weeks to 20/100 and in another two weeks to 20/20, except for occasional spells of momentary dimness of vision. Within three months there was a distinct palor of the optic disc which progressed to a moderate degree and seemed to be distinctly "primary." Without having seen the optic neuritis preceding, one would easily err in the diagnosis in this particular case. Of course a neurologist was consulted; his diagnosis after a

lengthy study was "probably multiple sclerosis of at least nine years duration."

In tabes we often find a primary atrophy; the eye man again may be the first to discover it. We have all seen so many of these unfortunates that I will not tire you with case histories.

But this atrophy should be differentiated

from that due to glaucoma (Fig. 17). In this condition the vessels bend sharply and usually disappear for a short distance as they cross the edge of the nerve head. Usually glaucoma is associated with increased hardness of the eye and often with considerable pain and redness—but sometimes there is no pain, and no increase in vascularity; infrequently there may be even no apparent increase in hardness of the eye. Such cases require most careful study and consultation; and should be referred to the internist as soon as the eye study has been completed, indeed, during the time the eye is being studied.

I have said little of syphilis because it is so protean in nature. I suppose the most common fundus change really characteristic of syphilis is disseminated choroiditis (Fig.

18). I recently saw such a case with my associate Dr. Wilder who told me the story of a mother who had made one bad mistake.

Although the eye is often the seat of a primary tumor, infrequently certain tumor cells of remote origin lodge in the eye (Fig. 19). This is occasionally true of breast tumors. Some two years ago I saw a patient at Cook County Hospital who had a detachment of the retina. While we could not at first prove a tumor, the patient finally agreed to part with the eye and the tumor was found.

My aim in this presentation has been to press for a fuller and more cordial coöperation between the eye physician and other medical men to the end that better service be given our patients. Let us use each other more freely.

## SPONDYLITIS IN UNDULANT FEVER\*

### A Report of Two Cases

CLARENCE H. SNYDER, M.D., F.A.C.S.†

ANN ARBOR, MICHIGAN

It is not our purpose to discuss the disease of undulant fever but to limit this paper to a condition which may occur during the course of the disease or when the patient has apparently recovered; and to present two cases of spondylitis of the lumbar vertebræ which have occurred in patients in Michigan who had apparently recovered from undulant fever.

These patients were treated conservatively and an attempt was not made to try and isolate the organisms from the lesions in the vertebræ. One patient was positively diagnosed and treated for Brucellosis by Dr. Sander of Lansing five months prior to the onset of his back symptoms. The other patient had developed an immunity to the disease according to Huddleson's method of diagnosing undulant fever by the results of the agglutination, allergic, and Opsono-Cytophagic tests.<sup>6</sup>

As pointed out in an article on Tuberculosis of the Intervertebral Articulations by Badgley and Doub,<sup>1</sup> the "upper and lower articulating surfaces beneath the intervertebral discs are supplied by the epiphyseal

arteries which are branches of the posterior spinal artery." In a later article<sup>2</sup> they mention the work of N. R. Smith who found nutritive channels coming from the marrow of the vertebral bodies and piercing the cartilaginous plates and the disc. These passed thence between the fibers of the annulus fibrosus to reach the nucleus pulposus. "The fact that blood vessels exist in the disc and pass to the nucleus pulposus which contains a cavity with cellular villi present in it makes it very likely that infection could occur in the disc either as the first focus or co-incident with the infection in the vertebræ." It is therefore easily seen how the infection of *Brucella* might also be carried, by the hematogenous route, to the interver-

\*From the Department of Surgery, University Hospital.

†Dr. Snyder is a member of the Washtenaw County and Michigan State Medical Societies, also a Fellow of the American Academy of Orthopedic Surgeons. He received the degrees of M.D. 1924, University of Michigan; M.S. (Surgery) 1934, University of Michigan. He has been Instructor in Surgery, University Hospital, since 1931.



tebral discs and the contiguous surfaces of the bodies of the vertebræ.

Little mention is made in the literature regarding backache in undulant fever. In the Iowa series, however, it was said to occur in about 45 per cent of the cases and lumbar pain was a prominent symptom in 15 per cent.<sup>5</sup> Farmers, dairymen, butchers, packing house employees and those giving a history of the ingestion of raw milk, when presenting a chief complaint of backache, should be suspected of having spondylitis. If the x-ray shows a suspicious lesion in the vertebræ, skin and agglutination and opsonic index tests should be done for *Brucella*.

A case of spondylitis was reported in the United States in 1932 by Kulowski and Vinke.<sup>9</sup> At operation an abscess cavity was found anterior to the right transverse processes of the lower three lumbar vertebræ. The culture yielded *Brucella melitensis*, bovine variety. Since that time Kulowski<sup>8</sup> states he has had another case of spondylitis in Malta fever with destruction of two lumbar vertebral bodies which was treated by bone grafting.

Roger<sup>12</sup> of France, says spondylitis is likely to occur in patients several months after the onset of the infection and may last for from four to seven months. His case showed narrowing of the intervertebral space followed later by proliferation or an attempt at bridging of bone, "like the bill of a parrot." Redell<sup>11</sup> reported a case occurring in the first and second lumbar region in a patient twenty years old who was observed for two and one-half years and who recovered following conservative treatment. Other cases have been treated by Vannucci,<sup>13</sup> Jensen<sup>7</sup> and Lassen.<sup>10</sup> In Lassen's case the x-ray showed "destructive disease of the disc between the first and second lumbar vertebræ with narrowed intervertebral space. The sides of the vertebra next to the disc are depressed as from a pathologic process and the contour of the vertebræ is less sharp." Later proliferative processes occurred and in eight months the patient was apparently well.

It is interesting to note that most of the cases reported in humans have occurred in the lumbar region. Feldman and Olson found ten lesions in the lumbar vertebræ and eight in the lumbosacral region in twenty-three hogs.<sup>3</sup> These *Brucella* lesions

occurred on the average in one of every 6,000 swine slaughtered and the organism was isolated from ten of twenty-four cases of vertebral lesions. The lesions seemed to originate in the epiphysis and formed irregular abscesses in the bodies of the vertebræ and intervertebral disc. They were usually 0.5 to 3 cm. in diameter and contained grayish white, thick pasty or caseous material and occasionally a sequestrum of bone was found in a lesion.

In a later article Feldman and Olson<sup>4</sup> described a crescent-shaped, cap-like inflammatory proliferation of osteogenic tissue bridging the intervertebral space on the ventral surface of the affected vertebræ. "The amount of ossification," he says, "is variable depending on the duration of the lesion." This finding in swine probably coincides with that in the humans described as osteophytic proliferation by Vannucci and the bone proliferation, "like the bill of a parrot," mentioned by Roger.

### Diagnosis

Spondylitis due to undulant fever may be suspected in patients who are known to have had the disease a few months previously or in those who, while not known definitely to have had it, have had some of the signs and symptoms such as loss of weight, night sweats, constipation, insomnia and headache. Skin tests for tuberculosis are important if repeatedly negative. A positive skin test for undulant fever is usually secured. Agglutination tests for typhoid, paratyphoid and undulant fever should be done.

Osteomyelitis, by the usual organisms, is not easy to rule out but the absence of any history of tonsillitis, boils, etc., will help. The character of the lesion by x-ray, usually more destruction of a single vertebra, together with the absence of a positive agglutination and skin test for undulant fever will aid in the diagnosis.

Neoplasms usually do not cross the intervertebral disc. Compression fractures with rupture of the intervertebral disc must be considered but will usually be accompanied by the history of injury.

The x-ray appearance of the lesions of spondylitis in undulant fever in the human and the lesions reported in swine resemble very closely the lesions of tuberculosis especially the intervertebral type reported by

Badgley and Doub.<sup>1</sup> In early intervertebral tuberculosis the intervertebral joint space is also diminished in the x-ray films and there may be paravertebral or psoas abscess.

showed a destructive process of the second and third lumbar vertebral bodies and intervertebral disc. Tentative diagnosis of tuberculosis of the spine was made and he was treated on frames. He had a daily temperature ranging from normal to



Fig. 1. Case 1. J. C., aged nine. Destructive lesion of third lumbar vertebra with distortion of the intervertebral disc. Patient previously had positive diagnosis and treatment for undulant fever.

These patients will, however, have also a positive tuberculin skin test while the agglutination and skin tests for undulant fever will probably be negative. In spondylitis due to undulant fever the prognosis is favorable and treatment consists usually only in immobilization while prolonged fixation or bone grafting will be necessary in tuberculosis.

### Summary

Two cases of spondylitis in undulant fever occurring in patients in Michigan are reported.

Spondylitis should be suspected in patients complaining of low backache who have had undulant fever and in packing house employees, or farmers and those giving a history of the ingestion of raw milk.

Conservative treatment is usually satisfactory and the prognosis is favorable.

The intervertebral type of tuberculosis must especially be ruled out in making the diagnosis.

### Case Histories

*Case 1*—J. C., aged nine, lives on a farm in Ingham County. He entered the hospital on June 9, 1933, referred by Dr. John F. Sander, Lansing, who treated him for Malta fever in 1932. "Bad back" was the chief complaint.

His present illness began about March 17, 1933, when the patient was admitted to a Lansing Hospital with complaint of pain in the back. X-rays

104°. Tuberculin tests were negative. Agglutination tests for undulant fever were positive.

The past history was essentially negative until the beginning of illness in November, 1932, preceeding present illness. The patient has had contact with grandmother who has tuberculosis. On November 2, 1932, the patient had severe abdominal distress and nausea and an appendectomy was done. Following this he developed symptoms of undulant fever. He had positive skin test for Brucella and low phagocytic activity. Agglutination tests for typhoid and undulant fever were negative. Tuberculin test was negative. "Brucellin" therapy was started. The patient improved and was discharged from the hospital on December 14, 1933.

Course in the University Hospital was as follows: On June 9, 1933, the patient was admitted to the University Hospital on a frame. There was a kyphosis in the mid lumbar region. Motion of the spine was remarkably good. There was no abscess formation. There was no true muscle spasm. Frame treatment was continued. Temperature ranged from normal to 103°. X-ray of the spine revealed destructive process of the second and third lumbar vertebrae with sclerosis of the contiguous bony portions, and distortion of the intervertebral disc.

X-ray diagnosis of infectious lesion of the third lumbar vertebra, structural change and distortion of the disc with secondary distortion of the second lumbar body was made.

Tuberculin skin tests were negative. The Kahn test and urinalysis were negative. Blood agglutination tests taken on July 17 were negative.

On August 21 skin test for Malta fever was positive. On August 23 phagocytic activity toward Brucella abortus showed 15 per cent slight and 85 per cent none.

On September 6 hemoglobin showed .60 per cent with white blood cells 14,200; on October 16 75 per cent and 11,000; on November 25, 74 per cent and 7,300.



On August 11 there was pain and flexion attitude of the right thigh. A small palpable mass was found in the right lower quadrant. An incision and drainage of psoas abscess was done on September 1. The culture showed slight growth of staph-

a dairy farm near Ann Arbor. His weight was 109 pounds. He entered the hospital November 1, 1933. Pain in low back was chief complaint.

His present illness began about ten weeks ago by pain in the low back. It was rather a sudden onset.

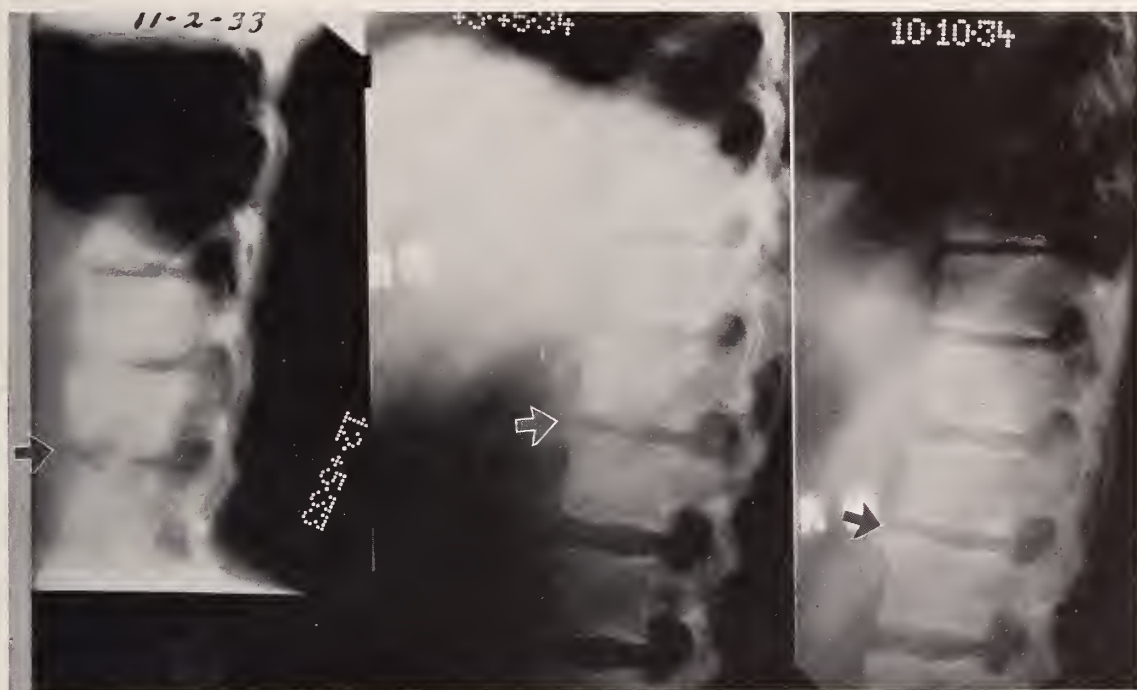


Fig. 2. Case 2. G. E., aged fifteen. Destructive lesion involving the bodies of the first and second lumbar vertebra associated with decreased intervertebral joint space. Repeated tuberculin skin tests were negative. Positive skin and agglutination tests for undulant fever.

yllococcus aureus. A guinea pig was injected and was negative for tuberculosis.

On September 12 the x-rays showed essentially no change. Temperature was normal. On October 7 the patient was up for a few minutes with a back brace. On October 15 there was no further drainage and on October 20 he was discharged with instructions to wear brace and to return in two months.

*Return Visits.*—The patient returned on November 24. He had a slight kyphosis but no tenderness. There was slight limitation of spinal motion in all directions. On January 5, 1934, he was re-admitted to the hospital because of slight drainage from sinus right iliac region. He was discharged on January 18, asymptomatic, no drainage. On May 25 he had had no symptoms since January. Patient now has full range of spinal motion. There is slight prominence of the second lumbar vertebra. There is no tenderness of the spine. Slight list to the left. X-ray showed destructive lesions contiguous surfaces and intervertebral disc of the second and third lumbar vertebrae still present. He was advised to continue wearing back brace. On December 28, 1934, the patient was asymptomatic. There was a slight compensated scoliosis. He had a full range of motion without muscle spasm. X-ray showed loss of joint space in the second and third lumbar vertebrae with a crescentic shaped defect in the anterior superior margin of the third lumbar vertebra. He was much improved since the previous examination. Discharged.

*Case 2.*—G. E., aged fifteen, a schoolboy, lives on

He has had constant pain since that time. Thinks he had fever part of the time in the afternoons and sometimes chills and night sweats. He had severe constipation which never had before. There were no joint pains. He went to bed in fourth week because the pain in the back was so severe.

His past history was essentially negative. He had scarlatina four years ago. He has had no other illness. No history of boils. No tuberculosis in the family. No typhoid fever and no injury.

Present history revealed temperature 100°. Upper extremities were negative. The back was rigid and there was tenderness over mid lumbar region. Muscle spasm of right lumbar paravertebral muscles. Motion of dorsal lumbar spine was limited in all directions. There was no pain in back on jolting. The right hip had slight flexion attitude. Extremities were otherwise negative. Reflexes and sensation were normal.

Neurology refer was negative except for abortive ankle clonus on the right.

Tentative diagnosis: Osteomyelitis lumbar vertebrae. Advised x-rays and admission to the hospital.

X-rays on November 2 revealed: (1) Lesions in the proximity of the secondary centers of ossification, of the fourth, fifth and sixth dorsal vertebrae probably due to an epiphysitis. (2) Destructive lesion involving the bodies of the first and second lumbar vertebrae, associated with decrease in intervertebral joint space, and a destructive lesion involving the right ischium. (3) Negative chest.

Laboratory examinations: Urinalysis on Novem-

ber 1 was negative except for trace of albumin. On November 27 and December 28 it was negative.

Blood studies on November 2 showed hemoglobin 75 per cent with white blood cells, 7,400. On December 28, hemoglobin was 65 per cent and the



Fig. 3. Spondylitis in a one and one-half year old hog. An organism of the *Brucella* group was isolated from a guinea pig inoculated with an emulsion prepared from this lesion. Lesion involves fifth lumbar and first sacral bodies and intervertebral disc. Shown for comparison. (Reprinted with permission of the authors, Feldman and Olson, and of the publishers, The American Medical Association.<sup>12</sup>)

white blood cells were 7,600. Red blood cells were 3,960,000. Differential showed polys, 77 per cent; lymphocytes, 15 per cent; and mononuclear leucocytes, 8 per cent. The Kahn test was negative.

On November 15, blood agglutination test was negative for bacillus typhosus and for paratyphosus A and B. They were positive for *Brucella abortus*, 1/160; *melitensis*, 1/160, and suis, 1/320.

Opsonic index: On November 20, the polymorphonuclear cells showed marked phagocytic activity toward *Brucella abortus*; 80 per cent marked and 20 per cent moderate. On December 6, showed marked, 64 per cent; moderate, 26 per cent, and none, 10 per cent. Blood culture was negative on December 5.

Spinal puncture on March 5, 1934, revealed normal fluid, no block. Spinal fluid agglutination tests on April 11 were negative.

On November 7, 1933, skin tests showed negative tuberculin tests, 1/1000 and 1/100 dilutions; on November 18, 1933, strongly positive to undulant fever; on January 1, 1934, tuberculin test, 1/10 dilution negative. Malta fever skin test was again positive, but negative in three control patients.

Diagnosis was made of spondylitis, due to undulant fever.

Operations: On December 13, 1933, a biopsy of the lesion in the right ischium was done. No abscess was found. Cultures and pathology reports were negative.

The patient was treated by rest on anterior and posterior frames. Temperature was essentially normal except for a few days, November 19 to 21, tonsillitis and acute otitis media. X-ray report on January 5, 1934: "The x-ray studies fail to show the lesion as well as previously. Destructive lesion involving first and second lumbar vertebrae with diminution joint space between them."

On January 9, 1934, there was marked limitation in anterior flexion with muscle spasm in low dorsal and upper lumbar regions. No psoas abscess. He was discharged, January 10, 1934. He was advised to continue frame treatment at home.

*Return visits.*—On March 5, 1934, he weighed 131 pounds. He felt fine, but had slight pain in the low back when on the anterior frame. There was a slight list to the left, slight muscle spasm in the right lumbar region. There was tenderness in the lumbar spine, second to fifth. The hips were normal and the reflexes were normal. A high back brace was ordered. The patient is gradually to become ambulatory and will continue sleeping on posterior frames. On May 14, 1934, he was feeling fine. Ran and played. He had full range of normal spinal motion with slight right lumbar muscle spasm. There was no tenderness. X-rays showed no change since last examination. On October 3, 1934, the patient reported he had been doing farm work. He was to wear the brace and was advised to discontinue the frame. On October 10, 1934, he had no symptoms. He was going to school. Examination of the spine was essentially negative. X-rays showed repair of previously described destructive lesion involving first and second lumbar bodies. Diminished intervertebral joint space still persisted. No evidence of activity at this time. The patient was discharged and advised to discontinue brace, and to return for check-up examination in three months. On January 5, 1935, the patient was asymptomatic. He has been going without the brace. Discharged.

## References

1. Doub, Howard P., and Badgley, Carl E.: Tuberculosis of the intervertebral articulations. *Amer. Jour. of Roentgenology and Radium Therapy*, 25:299, 1931.
2. Doub, Howard P., and Badgley, Carl E.: The roentgen signs of tuberculosis of the vertebral body. *Amer. Jour. of Roentgenology*, 27:827, 1932.
3. Feldman, W. H., and Olson, Carl, Jr.: Spondylitis of Swine Associated with Bacteria of the *Brucella* Group. *Archives of Pathology*, 16:195-210, (August) 1933.
4. Feldman, Wm. H., and Olson, Carl, Jr.: Isolation of Bacteria of the *Brucella* Group in Cases of Spondylitis of Swine. An Additional Study. *Jour. Amer. Vet. Med. Assn.*, 84, (n.s. 37):628, 1934.
5. Hardy, A. V., Jordon, C. F., Borts, J. H., Hardy, Grace C.: Undulant fever with special reference to a study of *Brucella* infection in Iowa. *Nat. Inst. of Health, bulletin* 158, (December) 1930.
6. Huddleson, I. F., Johnson, H. W., Homann, E. E.: A study of the opsono-cytophagic power of the blood and allergic skin reaction in *Brucella* infection and immunity in man. *Amer. Jour. of Public Health*, 23:917, (Sept.) 1933.
7. Jensen, J. P.: Spondylitis e bacillo abortus (Bang) Hospitalstidende, 71:537, (June 14) 1928.
8. Kulowski, Jacob: Personal communication. (November) 1933.
9. Kulowski, Jacob, and Vinke, Theodor: Undulant (Malta) fever spondylitis. *Jour. Amer. Med. Assn.*, 99:1656, 1932.
10. Lassen, Henning Kreiger: Et Tilfaelde af Spondylitis pas Basis af Infektion. *Med. Bac. Abortus* (Bang). *Hospitalstidende*, 73:64, 1930.
11. Redell, Gunnar: Spondylitis als Komplikation von Febris Undulans Bang. *Acta Chirurgica Scandinavica*, 29:87, 1931-32.
12. Roger, Henri: La Spondylite Melitococcique. *Presse Medicale* 342, 929, 1926.
13. Vannucci, Dott. F.: Sulle spondiliti da Brucellosi. *Giornale di Clinica Medica*, 15:214, (Feb. 28) 1933.



## THE FUTURE OF MEDICINE

J. C. S. BATTLEY, M.D.  
PORT HURON, MICHIGAN

The pivot about which the functions of the profession of medicine revolve is found in the Oath of Hippocrates, the Father of Medicine, the man whose lengthened shadow extends from fourth century Greece to the present day, "Into whatever houses I enter, I will go into them for the benefit of the sick." There is a tendency for main principles to be lost sight of in the welter of contemporary confusion and to be obscured by the emphasis which is placed on questions of expediency. This keystone of the medical arch must not be forgotten in any discussion of the problems which confront medicine, be they scientific or economic, for only by its continued inclusion will medicine proceed to the fulfillment of its destiny.

## I

Anything which has to do with present time is in a state of transition. We seem to have no abiding place. We look to a past which, in retrospect, appears more or less stable, a golden age perhaps, and to a future which embodies in a vague way the outline of whatever Utopia we believe in. The present is in a state of flux and we are hindered from seeing the whole by the parts which obtrude themselves before our eyes with distorted proportion, blocking out the possibility of perspective outlook.

It is a salutary discipline to look backward to the practice of medicine as it was engaged in by our forefathers, or, at least, as it now appears to us for, doubtless, in their day they too experienced the uncertainties of present time. As the years pass the chaff is blown away but the lasting good remains. The picture that remains to us of their endeavors contains the essence of their lives. The extraneous matter has long since gone. The outstanding feature of the physician of the past is that he did practically everything that a family required. He helped them into the world, he eased their pathway out, and between at whatever milestone they stood he was there to assist and comfort them along the way. Among the household gods he took first place. In times of need he was a counsellor in things other than medical. In matters of health his word was law and his patients lived and died in his hands without question.

My own mental conception of these men was largely shaped by Sir Luke Fildes' painting "The Doctor." It hung in my mind when a boy as it hangs over my mantel now, the humble cottage, the sick child lying upon

the chairs, the motherly despair, the fatherly helplessness, and the physician the presiding genius of the scene. It typifies that personal relation between physician and patient without which the physician cannot give the best that is in him and without which the amazing potencies of medicine cannot come to fruition. These men achieved a blending of the art and science of medicine which now to some extent we have lost. Their lives emphasized the helpfulness which is the real mission of the physician and which in the end is the main guy rope of life to him. They were artists as well as doctors and in many an isolated community alone and far from their fellows they lived out their lives of service.

The physical surroundings of those days necessitated a medical system of this kind. Our grandparents seldom went many miles from their homes. They could not readily consult physicians in other places nor could these physicians come to them. The local doctor of necessity must have been all sufficient and that sufficiency bred a respect and confidence which is now somehow lacking. The field of medicine, moreover, was not so broad but that a single man could master its essentials and its technical application was relatively simple to what it is now. The doctor was an entity such as we can realize only with difficulty.

## II

What, then, are the changes that have occurred to produce the medicine we see today, and as we shall see it still more changed tomorrow? First, is the unprecedented advance in scientific knowledge of the last fifty years and the specialization it has brought. Second, is the alteration in methods of application of medicine result-

ing from changes wrought in economic and social conditions by the rise of modern industry. Third, is the increasing complexity of the technical means needed for successful application of new developments.

Medicine has advanced more in scientific achievement in the last fifty years than in all the time from the Greeks to the days of our fathers. Improved methods in any line of work invariably result in the appearance of specialization. Now specialization is merely the division of labor. A man doing one thing many times can do it better than many things a few times. This has been the main contribution of industrial change to our way of working. It has resulted in mass production with its reduction in prices. For its successful application it has required a high degree of integration of effort. A worker may not now build a complete wagon but by the coöperation of the workers making various parts the whole is again achieved with accompanying advantages. We have moved from an individualistic mode of working to a group method. The tendency toward coöperation or doing things by the group rather than by the individual is the outstanding characteristic of modern society. Adam Smith clearly saw the trend toward specialization when he wrote in the "Wealth of Nations," "Men are more likely to discover easier and readier methods of attaining any object when the whole attention of their minds is directed toward that single object than when it is dissipated among a great variety of things."

Medicine has by no means escaped the trend toward specialization and group effort and this has added immensely to the difficulty of its position. One may wonder at this for specialization appears to have solved the problem of the production of commodities if not their consumption. Medical services, however, are not commodities. It is the inability to distribute satisfactorily by a commodity system the services that the physician has to give which has led to difficulty. The essential difference between a profession and a business is that the former renders services whereas the latter sells commodities. While both, it is true, deal in something that satisfies human wants, the resemblance ceases here. The purveyor of commodities has no relation to the buyer except to receive his money and deliver to him

his purchase. His main interest is in profits. More often than not the article bought is made by a third party far in the distance who never comes in contact with the consumer. Services, on the other hand, are intangible offerings on which no fixed price can be set. They are wrapped up in the personality, the integrity, and the training of those who offer them. The keynote of trade is competition; that of medicine is, or should be, coöperation. Successful physicians, considered as success should be considered among them, never have been those who have competed with their fellows for worldly gain. They have been those who have helped the sick and furthered the progress of the medical art.

Specialization has arisen because it is now impossible for one man to handle the whole field of medicine well. It is increasingly becoming the custom for physicians, and especially recent graduates, to aim at some special field of knowledge. This is not a localized development and is not dependent on the system under which medicine is practiced. In the United States where we adhere to the individual competitive plan about thirty-two per cent of physicians specialize to some extent. In Germany where state medicine is almost universal thirty-six per cent do so.

Specialization in medicine, as in any other activity, predicates a high degree of integration. In order to achieve the whole as exemplified by the older practitioners there must be a complete coöperation between doctors. This coöperation is hindered by the fact that every doctor, be he specialist or general practitioner, is working on an individual competitive basis in which profits must be the main end, his means of livelihood. The more patients he can accumulate around him and hold from passing to others the better chance he has for a good income and a full life. The benefits that specialization should bring in making available to all the potentialities of modern medicine can be consummated only with great difficulty under a system which requires the offering of services in the same manner as the selling of commodities.

### III

The rise of modern industry has brought about changes in economic and social conditions which, although most evident in in-



dustrial life itself, have profoundly affected the nature of medicine. Seen as a whole, these changes, now so fixed, have arisen as society has proceeded from the feudal system to the industrial world we know. The inception of the use of machinery in manufacturing which marked the beginning of the Industrial Revolution in the late eighteenth and early nineteenth centuries sounded the knell of the feudal economy. The self-sufficiency of the manor has given place to a world in which men live individualistic lives and work for a wage. On the part of the workers the guild system built up a sturdy craftsmanship and a real devotion to and pride in their task. Their work bore the impress of their personalities as John Ruskin said each stone of the medieval cathedral did that of the workman who chiseled it. This has given place to the monotonous repetition of the modern factory, where it is hard to see how keen enthusiasm can be stimulated. While it is a far cry to the days of feudalism, we can remember within our own lifetime communities depending for their livelihood on a factory that passed from father to son and in which the welfare of the workers was looked upon by the owners as a problem of personal interest and responsibility.

New conditions, born of invention, machine manufacturing, transportation, and finance, have come to rob us of much of this. We live a highly and subtly integrated life, each member dependent on every other as never before and each town and city dependent for its very existence on every other. We have an abundance of goods and a degree of comfort never before dreamed of yet we live in a far from happy state. Our factories are seldom owned by local proprietors. Stockholders have no interest in the welfare of far away workers. The operation of the stockmarket redounds, not to the benefit of the workers but, to that of the stockholders. In a time when more than ever before we need one another's help, we are living lives of uncertainty into which poverty and dependency may be thrust at any time.

In this scene the office of the doctor stands as it long has and each night the light continues to glimmer from his window. He still depends on personal contract with his patients for his living. But now, in place of a clientele which with reasonable certain-

ty can pay him for his work, he has one a great part of which can no more than supply itself with the necessities of life, let alone pay the doctor. Uncertainty of employment and part time employment have robbed the worker of the even tenor of his way and have injected the same uncertainty into the doctor's life. The fact that many physicians have been forced to seek welfare aid during the depression is evidence of this and suggests on the face of it that some adjustment in the economics of medicine is necessary.

#### IV

Finally, the complexity of technical apparatus without which the best medicine is not possible is a serious obstacle to effective practice, for many physicians cannot have at their disposal these means of diagnosis and treatment nor can patients always go to those who have them. This discrepancy is most marked between the city and the country. In the city the physician has available hospitals and laboratories while in the country precious time may elapse before these facilities can be reached and, indeed, in the matter of urgent treatment it may not be possible to get the patient to them with a resulting increase of unavoidably inefficient service and perhaps an increased mortality. Many young physicians have been deterred from seeking homes in rural areas largely for the reason that they feel that they will have difficulty in doing their work as they have been taught to do it.

Complex methods are now necessary for diseases which at one time were cared for by simple home rest. New life and hope are being spelled for thousands who formerly had nothing to look forward to. Special apparatus and special institutions are demanded which no single physician can command. The treatment of tuberculosis is no longer one of prolonged home rest but of at least part time sanatorium care with the armamentarium of specially trained physicians and surgeons. Other diseases such as arthritis, diabetes, chronic nephritis, now considered as home problems, will increasingly become more amenable to treatment in institutions. In certain sections of the population there seems to be no hope under any other plan. What chance has a diabetic child of poor or destitute parents outside of an institution? What chance has a child suffering from the paralysis of poliomyelitis away

from a place where proper re-education of his muscles is available? How can expensive appliances such as radium and the electrocardiograph be made available to doctors aside from some centralized plan?

There are other problems also in which medicine must become interested if it is to do its full part in the years to come, rest and recreation, pure foods and drugs, temperance, the care of the aged, the plight of the deaf and the blind, and the effect on health both physical and mental of many present day activities. The inseparable relation between the practice of medicine and health, poverty, and the general welfare of society is becoming startlingly recognized.

Thus is medicine beset with problems of adjustment on every side. Its function of helping the sick is receiving a broadening emphasis but is made more difficult by conditions of specialization and technical application within the profession and by those of economics and sociology without.

## V

In seeking to understand the many aspects of medical problems one fundamental must be recognized, that as in society in general so in medicine in particular the scheme of things is proceeding along evolutionary lines which cannot be stopped or in the final result hindered. The static conception of the world was abandoned for a dynamic one by the German philosopher Hegel. To him the universe became a picture of endless change and development. He believed that human ideas and ideals could direct the path of social evolution. Later thinkers have come to believe that rather the reverse of this is true, that the evolution of society occurs in a fixed direction, that events march to their fated conclusion but that man when once he recognizes the trend may guide the process of change by conscious effort and contrivance. The extremely rapid changes of our day have tended to make us confuse the issue as to how much we ourselves can actually direct the course of events. Carlyle said, "We haste stormfully across the astonished earth," and stormful hastening is not conducive to calm deliberation.

The problem that is exciting most interest in medical ranks is that of the socialization of medicine. Immediate interest has been crystallized by the depression. Nevertheless, trends toward socialization of medical prac-

tice were taking place before the depression and they will continue after it is over. The particular needs and circumstances of the depression have accelerated and exaggerated them. Before the World War fifteen state legislatures considered the adoption of state sickness insurance. It is possible that if the war had not come one or more of them might have adopted it. There is much debate as to the advisability and practicability of all sorts of schemes of caring for the sick without the cost bearing down heavily on the individual and giving the doctor some recompense for his work which he might not get otherwise. These schemes vary all the way from state medicine to small group insurance. The unhappy situation of physicians under some of the European systems has tended to discourage similar undertakings here and has led many to decide to have nothing to do with socialized plans. The argument that National Health Insurance in Great Britain and the *Krankenkassen* in Germany have submerged the individuality of physicians and reacted in many ways to their detriment seems to me to be really beside the point. The point is that these things are the product of inevitable social change and that in America socialized aspects of medicine are sure to appear. In many respects we are following despite ourselves in the footsteps of the older countries. In America, however, we are in the fortunate position of being able to profit by the errors of the European systems and we should be more able to direct the course of social medicine along satisfactory lines.

A study of the history of Workmen's Compensation throws a light on social medicine. The necessity of Workmen's Compensation arose because of the development of industry and machines and the recession from agricultural and handicraft production. In earlier times the tools of industry were not particularly hazardous and accidents were few. There came a time when industrial accidents increased and plans appeared forthwith to compensate workmen for accidents not wholly under their own control. Prior to 1910 there were no State Workmen's Compensation Laws in force in the United States. By the beginning of 1912 five state acts were in force and by 1922 only six of the forty-eight states had no compensation acts in force. In less than a decade compensation had spread through



nearly all the states of the Union. Many American business men once opposed Workmen's Compensation. Today it is accepted as absolutely essential to our industrial health. The United States was the last of the large western nations to adopt it. Acts were passed in Germany and Austria in the eighties and in the nineties in Norway, Finland, Great Britain, Denmark, Italy, and France. From 1910 to 1912 it came into force in such widely separated places as New Zealand, the Netherlands, Greece, British Columbia, and Quebec.

The fundamental pattern of life being everywhere the same, may we not draw a lesson from the history of Workmen's Compensation as to the likely course of socialized medicine in America for it is already a fact in many other countries? Will the time come when the ordinary citizen will be compensated for suffering entailed by acquiring non-preventable disease? Can preventable disease be effectually prevented by any method other than a socialized one? For example, can typhoid fever be prevented as effectually by voluntary individual vaccination as by chlorination of water supplies by the action of communities? If industry does not bear the burden of Workmen's Compensation much of the cost eventually reverts to it for state support of the aged, cripples, widows, and young children. Does the same argument apply to compensation for general illness?

## VI

The lee shore on which changes toward a more socialized form of medical practice are liable to founder is that of individualism. We are told that our individualism is being attacked, that we shall no longer be free to carry out the age long tradition of our calling but shall be at the beck and call of others, our political masters mayhap. We tremble lest the citadel of individualism be assailed, yet one hundred years ago Carlyle protested against the tendency of his age to submerge individualism.

It is not the facts concerned in change that people object to. It is the implication of the facts and how they affect them. The churchmen did not so much object to facts developed by Copernicus as they did to the realization that the earth and they with it had become relegated to a very minor place in the heavenly system. New conceptions of individualism are disturbing chiefly in

that they disturb our present status. There seems to be no absolute difference between individualism and collectivism any more than there is an absolute distinction between heredity and environment. They merge and mix and at times each partakes of the character of the other. There is no such thing as a group mind except in the aggregate of individual minds. Group action is the sublimation of individual action, its conversion to a finer form. If one thinks of it in this way it is difficult to see how the individualism of physicians will suffer as medicine evolves.

Laissez-faire individualism, though still struggling on, received its death blow the day the guns opened across the Belgian border. Now after the hideous night following war, across the piled corpses of broken lives and hearts and homes, the sun of coöperative individualism is slowly rising. Silhouetted against its luminous rays as never before in human history is the philosophy of doing unto others as we would they should do unto us. We laud the accepted concept of individualism. If we are honest with ourselves we must admit that the profit motive is behind it. Take it out and we lose interest. We slay the bird that makes the breeze to blow. Our rugged individualism has been constantly curtailed throughout history to make the world a place more worth living in for the average man. Where we lose in some point of individual power we gain by living a more abundant life. Provided that changes in medicine come by evolutionary rather than by revolutionary means our individualism may be depended upon to adjust itself satisfactorily to new standards and to develop more and more the note of service rather than that of profits.

Much more important in the re-direction of medicine is a greater emphasis on professionalism and the professional spirit. Some distinguishing features of a profession are: a special competence arrived at by carefully controlled periods of training, a sense of responsibility, a system for the maintenance of standards of competence and conduct, and an emphasis on service rather than on profits. The professional spirit, as R. H. Tawney has pointed out in his "Acquisitive Society" is itself neither good nor bad but is "a force like gravitation—which the engineer uses—to do his work for him." In other words, it affords

a way of getting things done which takes emphasis off profits and places it on performance of the best and most ethical kind. That it has survived the commercial era and is even more than ever alive is shown by the suggestion of Tawney to apply it to industry. It matters not whether we have state medicine or individualistic medicine so far as the professional spirit is concerned. An increased stress on it will help us to do a better job no matter how we are placed.

## VII

In that revealing social study "Middletown," written by R. S. and H. M. Lynd, one comes across the following: "Meanwhile, one observes the situation of some fifty local doctors spending much time sitting in their offices waiting for patients to come in and proffer the requisite money for treatment—while at the same time 38,000 people, most of whom have some physical defect, great or small, needing correction, are in relatively few cases having these defects treated by the best medical skill the city possesses." In a sentence the authors have summed up the medical situation as it exists today and out of which rapid strides toward socialization are proceeding.

It will be well in considering socialization to define our terms for, like Humpty Dumpty, we are prone to give our own meaning to words we use. Socialization as applied to medicine means doing things by means of the group rather than by the individual. In society in general the trend of the last hundred years has been toward the importance of the group over the individual. There is no antithesis between them. Individual effort ceases at a point after which coöperative effort must appear if progress is to be made. For some time we have been undergoing an increasing degree of socialization in medicine, practices which have come to stay because they are good. The organized work of public health agencies, the activities of medical societies, Workmen's Compensation, the development of hospitals, and research, are all examples of socialized effort. The extent to which socialization has already gone can be seen when it is realized that at present seventy-three per cent of the hospital service in the United States is supplied by government agencies, federal, state, and municipal.

The degree to which socialization will go depends on whether health is looked at as

a private matter or as the concern of the state. It is generally conceded that the nation's health is the concern of the state. Therefore we must expect an extension of socialization. It is not a matter of having it or not having it but of entering into its spirit and seeking to guide it in the proper channels. Any practicing physician can tell you that some way other than that of individual payment for services is necessary to properly distribute medical care to the low wage levels of the population and at the same time give the physician some remuneration for his work. The great number of cases of real hardship that have arisen in recent years conclusively shows this. One might easily build up an ideal plan to remedy the ailing situations but there is no occasion for extravagant hopes. The difficulties are tremendous and we proceed with uncertainty and stumbling and turn from idealism to reality much as one who has been looking for awhile into the face of the sun. When it is considered that in California there is one doctor to every 571 people and in South Carolina one to every 1,400; that although there are 7,000 hospitals in the country with one-third of the beds unoccupied in recent years, yet there are certain parts that have no hospital facilities; that forty-nine per cent of city children of six, the time of entering school, have never received a single general health examination and of country children of the same age sixty-three per cent have never been so examined, we must expect a long period of adjustment and must not condemn new efforts because in our lifetime, perhaps, they do not work so smoothly as old ones which have become no longer usable.

At the extreme of socialized effort is state medicine. The definition of state medicine is that doctors would be employed and paid by the state to look after allocated groups of individuals. The likelihood of such a system being put into effect is hardly worth considering at the present time. The American profession has too much of the pioneer philosophy about it to accept extreme forms of socialization nor is it at all likely that the government has any desire to regulate medicine in this way. It will only do so when medicine becomes incapable of regulating itself. The medical profession must see to it that further trends toward socialization, especially health insurance,



will remain under its own control and be directed by it, avoiding the pitfalls of the European systems and guarding the right of the patient to select his own physician and to deal personally and confidentially with him.

### VIII

Now let us consider the complementary side of the picture, that of the patient. What does he think of all this or does he think of it at all? One suspects that the average person thinks very little about it. The healthy know not of their health but only the sick and then it is to get well as soon as they can and forget about medicine and doctors. Most people pay little attention to the problem of medical care until illness arrives when, if they have had no previous contact with a physician, they have to rely on the advice of neighbors and friends. Only a few make inquiries in advance as to the fitness of a physician for given work and make their plans accordingly. Illness among primitive people is looked upon as an object which may enter the body and which may be removed. Many members of our own society look upon it in just this way. Then, too, there are sovereign remedies for pains and aches applied under the ægis of the divine right of self medication. Popular medical lore is shot through with magic and superstition. There is an ever recurring tendency in people to believe in magical procedures, in those who cure by the laying on of hands, and in a pathetic and unreasoning belief in all sorts of patent and exploited medicines and charms. Added to this one finds the conception of medical services being synonymous with commodities and an unfortunate habit of medical shopping for both opinion and price, reflections doubtless of the commercial tendencies of our age. Under these circumstances how much intelligent interest will the average person take in enlightened schemes of health insurance?

The discrepancy between the extent of our knowledge and the extent of its application is a noteworthy fact. The young physician brought up in the scientific atmosphere of medical schools and hospitals experiences a rude shock when thrown into the waters of outside practice. In the hospital he gave orders, nurses carried them out, and results followed. In practice patients do not always carry out orders nor

take advice and results are not always forthcoming. He comes to know the difference between curing and helping the sick which Hippocrates knew centuries ago. He detects a looseness and flexibility to medicine which he never suspected to be there. Indeed, this must be so if he is to carry out his mission of helping the sick for not infrequently little science is needed to help a sick man. Sometimes the doctor must stand aside and throw his scientific attitude into the discard if he is really to help his patient. His job often resolves itself into a struggle for a living and he comes to realize the meaning of the words of Milton, "They also serve who only stand and wait."

Our culture has been changing in recent years at an increasingly rapid rate. Medicine as part of it is partaking of this change. The practical application of these new things must be of prime importance. The material aspects of medicine have far out-run their application. One way of understanding it is from the viewpoint of cultural lag. In this way it appears no different from other contemporary problems. The depression, looked at from one angle, is due to our inability to adapt ourselves to changes in the material culture. These material changes force changes in other parts of culture such as social organization and custom. But these adaptive adjustments are not accepted so quickly as the material changes which precede them. They lag behind the material changes. The abstract developed from the concrete is less readily received.

Medical culture is largely of this abstract type and against present popular concepts it makes slow progress. Habit, love of the past, and various utilities of the old culture militate against the acceptance of new ideas. The heterogeneity of society is a cause. The need of change in the adaptive culture is felt by only one class—in our case the medical profession—whereas the change must be made by society as a whole. To inaugurate new practices in medicine it is necessary to change habits and customs and this only occurs over long periods of time. The power of resistance belonging to old ideas is seldom overthrown until a new generation arises to whom the old is no longer dear.

Medicine also partakes of the unrest prevalent in modern society. We deplore a lack of honesty, a disinclination to pay debts, a

lack of preparation for trouble which when it comes leaves to others the brunt of our suffering. It is true that the American people pay more for moving-pictures, candy, tobacco, and cosmetics than they do for medical services. It has become a state of mind to insist on having these material things and to insist that medical service cannot be paid for. Illness, more and more, is coming to be looked on as a catastrophe of nature or a visitation of God for which we are not responsible and for which we should not have to pay. Perhaps this pulsing unrest is a reflection of a present day psychology of the futility of things, perhaps it is an indication of a surrender to the group.

As yet we cannot see our way clearly in these problems of medical change. Kaleidoscopic flashes blind us to any integration of the many factors and leave us no resting place for our thoughts. One certain thing is that change is inevitable and we must accept it heartily and not with a feeling of frustration. But because of the slowness of adapting ourselves to change we must move slowly and more or less blindly. In medical as in all problems, progress lies in compromise between the old and the new for as Doctor Johnson said, "Human experience which is constantly contradicting theory is the great test of truth."

## TRAUMATIC NEUROSIS

### A Bio-Sociological Problem

IRA M. ALTSHULER, M.A., M.D.†  
DETROIT, MICHIGAN

*"The mind and the body are one and the same individual"*—BENEDICT SPINOZA (Ethics, Prop XXI)

Traumatic neurosis is a state of mind which is produced by a shock incidental to a bodily injury. The belief that traumatic neurosis must follow a bodily injury is erroneous. Indeed the trauma or wound may be absent; the neurosis on the other hand may also persist long after the trauma-wound has vanished. Traumatic neurosis although precipitated by a trauma is actually an expression of a discord, a conflict between the biological and sociological forces of which man is composed. For a better understanding of the nature and mechanics of traumatic neurosis, an examination of man, his development, and his environment is essential.

Man, structurally and functionally, is a complex organization. His behavior as well as his various reactions depend upon a series of adequately integrated physical, chemical, animal, and sociological forces.

While in the uterus the fetus leads a parasitic existence. There it is sheltered, fed and protected. When born, the child must become active and exert effort. It is forced to breathe, apply effort to get its food, adjust itself by means of the sympathetic nervous system to the atmospheric and climatic changes; the metamorphosis from an aquatic to a terrestrial being thus marks a serious step in human life.

After birth, the child's brain is taxed by ceaseless impressions flowing from every portion within its body; it is also bombard-

ed by outer stimuli working upon the sense organs. The breaking in of these new avenues of communication, the mobilization of the whole organism, and the establishment of its relationship with the outer world is indeed a difficult task.

The behavior of the child in its initial stages of life conveys the impression that it is displeased with its new environment. This displeasure, which is almost bordering on contempt, is a clear manifestation of its craving to return to the carefree and peaceful aquatic existence. A mere glimpse at the newborn child convinces one that it is annoyed by the light and lower temperature; the mere fact that it takes so long for the child to stand up, walk, coördinate its muscular movements, understand and reason, is a further indication of its stubborn attitude toward the world. The chick, on the other hand, shows an entirely different attitude; after picking its way through the egg-shell,

†Dr. Altshuler is a graduate of University of Berne, Switzerland (1917). He pursued post-graduate work in neurology and psychiatry at Harvard University 1927-28; since 1928 he has been a member of the Staff of Eloise Mental Hospital. He is correspondent to *Psychological Abstracts* and *Journal of Neurology and Psychiatry*. Author on psychiatric subjects in Europe and United States.



it is almost completely self-sustaining. The child, however, is slow in accepting the world. One of the chief reasons that the child refuses to accept this world is his innate desire for pleasure. The world cannot give to the child the same comfort it had in the uterus. So in time of distress there is a morbid longing to return to this state of protected passivity.

The fascinating biblical legend which deals with the expulsion of Adam and Eve from Paradise is a parody on man's expulsion from the womb. To learn the "good and the evil" means to leave Paradise. ". . . In sorrow shalt thou eat of it all the days of thy life." And the further prediction—"In the sweat of thy face shalt thou eat bread till thou returnest unto the ground."

The new-born faces a number of biological and sociological difficulties; the first months of its life on earth are the most critical. The mortality of children because of the refusal to eat, lack of assimilation of food, susceptibility to infection, is not only due to their bodily frailty but to the lack of will to live in this new and strange world.

The child, born with instincts, is soon also forced to obey sociological impulses.

The sociological impulses or conditioned reflexes, because of their great number, steady activity and persistence, take full possession of man. The outer world forces the child to behave as a socialized being. The family, school and state present their claims and mandates. This is often done by friendly agreement, but more often by force. Customs, traditions, morals, ethics, and religion press heavily on the child. Confronted by these implacable forces, he must either submit to them or face annihilation. To submit, means to form a compact between the biological and the sociological forces.

Thus it happens that immediately following birth, a partnership between the biological and sociological forces is established. This partnership normally strengthens with years; it promotes harmony and what may be termed "society." There are, however, cases where the biological and sociological forces fail to unite, or after having coöperated for some time, are torn apart. Then neurosis ensues.

The business of living is subsidized by biological and sociological sources. The

biological source furnishes instincts, drives, systems and organs, through which it may perpetuate its kind and satisfy its immediate needs. The biological source is the carrier of the spark of life; it is sentient through and through.

The sociological source is the outer world; the complex milieu in which we live. It is food, education, experience and training. This outer world, a source of everlasting change, is always demanding of us that we change with it. In spite of the fact that the biological and sociological sources do not constitute a firm combination—this combination serves, at least outwardly, the purpose of civilized existence. With the evolution of man into *homo sapiens*, the cortex of the brain assumed the role of the guide of the biological and sociological forces.

The cortex, primarily a part of the human flesh, becomes more alert to the mandates of civilization to an extent that it neglects its purely biological functions. The development of the cortex thus stands out as a direct challenge to man's somatic self.

The steady coöperation between the biological and sociological forces and the preference which the sociological side has been receiving, has gradually led to the "socialization" of man. Man has become "socialized" to such an extent that not only his thinking and his general behavior, but also his physical functions—his systems and organs—have become socialized.

Thus for instance, the bladder, the rectum, the sexual apparatus, etc., in addition to their natural functionings, have also learned to respond to sociological signals. The sociological signals because of their multiplicity, vigilance and persistence have subdued the natural functions of the organism—functions systematic and periodical—making it a victim to the caprice of the former. Practically all parts of the organism have their own strong sociological controls. This double function of the systems and organs is of practical importance in the study of traumatic neurosis. It is somewhat easier to understand why, for instance, a vocal cord or an arm ceases to function when it is made unreal by social condemnation.

As already mentioned, the basic cause of every traumatic neurosis is a split between the biological and sociological forces. The

sociological principle (everything which civilization carries in itself including the economic factor), plays an immense role in the etiology and course of traumatic neurosis.

The economic status of the laborer, particularly the unskilled one, differs considerably from that of the tradesman or the professional man. The unskilled laborer is only a little better than a machine. He is the simplest piece in our industrial mechanism, a piece easily missed and readily replaced. As far as his industrial rating is concerned, it is very low.

Then again, the development of industry, its branching into manifold divisions, simplified the duties of the laborer and prevented him at the same time from projecting his individuality upon his work; in short, robbing him of the *content* of the work. A person who finds contentment in his work ceases to work for money only. The compensation for his work, in addition to money, is satisfaction in the feeling of being able to perform, to accomplish, and to create. This satisfaction flows through physical, mental and temperamental channels.

Variations in industrial status, economic crisis, labor unrests, strike primarily at the unskilled laborer. He is the *locus minoris resistentiæ* of our industrial structure.

The inherent weakness of the unskilled laborer has its psychological correlate. The day to day existence of the unskilled laborer, makes him peculiarly vulnerable to traumatic neurosis.

Traumatic neurosis is therefore found more frequently among unskilled laborers; it is also found among people with limited intellect, those vocationally maladjusted, and those like our foreign born, with language handicaps. The individual who develops traumatic neurosis is rarely vocationally adjusted. He merely supports himself, receiving money, but "does not work," for work implies not only physical but emotional application. Just as war with its abhorrence for killing and being killed, causes a mental conflict; industrial strife with its physical, emotional, intellectual and vocational conflict causes neurosis.

A trauma-shock not infrequently is in the position to disconcert the laborers frail bio-sociological combination, bringing the silent grievances to open revolt. There is always

a hidden desire in each of us to throw off responsibilities in connection with self-support, support of the family, social responsibilities, traditional burdens. The more strenuous the fight for existence, the more acute is this desire. When there is an open conflict, it may lead to a psychological return to childhood.

Why to childhood?—Because childhood represents an epoch of lesser responsibility.

Childhood is associated with paternal protection. The parent, particularly the father, symbolizes protection; he is the provider and moral authority. In later years everyone who protects us and whom we look up to, is a father image. The process is of course a subconscious one. In the subconscious mind of every grown person, the government, state or any authority, are extensions of the father domination. The laborer bringing his complaints to the court or commission is thus not only asking for material redress, but is seeking moral satisfaction.

The shock coincidental with the trauma which upsets the laborer's bio-sociological combination, although subconsciously welcomed, is consciously refuted. Only on exceptional occasions can an individual afford to entirely abandon the duties connected with social responsibilities—such as home, children, etc. The desire to be useful to one self is the last thing man sacrifices; for to be useful to one self and to others, means to be some one, to amount to something, to feel a part of the whole of society.

When the feeling of uselessness, because of the shock, creeps into the laborer's mind, there is only one thing he can fall back upon—his civic rights. He wishes to feel that the loss of his economic security is not his very end. Indeed as a citizen he may still feel secure, hoping that the state will protect him. By carrying his grievances to the judge, he attempts to restore himself economically and morally.

The following remedies are of general importance in the care of traumatic neurosis:

1. Humanize the laborer.
2. Place the laborer on a job to which he is physically, mentally and temperamentally suited.
3. Make his work more interesting and see that his individuality is not completely lost in the sea of the machine.



4. Make him feel more economically secure (unemployment insurance).
5. Do not bluntly accuse him of malingering, for true malingering is rare.
6. Give him adequate medico-psychiatric care, but do not overtreat him by sending him to many physicians and specialists.
7. Do not let him stay idle too long.

### ARTIFICIAL PNEUMOTHORAX

J. Arthur Myers, Minneapolis, discusses the inception of artificial pneumothorax with Forlanini of Italy and Murphy of Chicago and gives the following factors for its procedure, indications and so on. 1. Filtered air to the amount of from 200 to 250 c.c. is introduced, under carefully observed manometer readings, into the pleural cavity as an initial treatment. The second treatment is given forty-eight hours later; the third seventy-two hours after the second, and the fourth about five days later. The interval between subsequent treatments depends on the extent of collapse and the rate of absorption of air.

2. The complications are gas embolus, spontaneous or accidental pneumothorax, serous effusion, empyema, mediastinal hernia, febrile reactions, pain and subcutaneous emphysema. 3. Artificial pneumothorax has no deleterious effect on normal lung tissue or the other organs, such as the heart. Diseased tissue collapses more readily than normal tissue, so that selective collapse may result. 4. Artificial pneumothorax may be used as a diagnostic measure. 5. Hemorrhage and minimal progressive to far-advanced unilateral pulmonary tuberculosis are indications for pneumothorax. Even bilateral disease, if one lung is not involved too extensively, responds to pneumothorax treatment. Contraindications are cardiac disease, asthma, severe emphysema and advanced bilateral tuberculosis. 6. In moderately and far-advanced cases, successful pneumothorax shortens the period of bed rest necessary, renders the sputum negative and closes cavities if the walls are not too thick. In minimal progressive lesions it prevents the sputum from becoming positive or, if positive, renders it negative and controls the disease and frequently obviates hospitalization and strict bed rest. 7. Pregnancy is an indication for rather than against pneumothorax, if the disease is discovered at that time because of the beneficial effect for the patient and the possibility of changing the sputum to negative. 8. Treatment by pneumothorax with the patient remaining ambulatory is possible for selected cases, including elderly persons. 9. Pneumothorax is indicated in children if the lesion is of the reinfectious type. 10. Several factors must be kept in mind when discontinuation of pneumothorax is accorded to. Minimal cases should continue at least two years, and moderately or far-advanced cases from three to five years or even longer. 11. Oil may be substituted for air if adhesions are forming and obliterating the pleural cavity. 12. Pneumothorax is used to some extent in bronchiectasis, pulmonary abscess and lobar pneumonia. (*Journal A. M. A.*, Oct. 27, 1934.)

From the above it is quite obvious that the problem of traumatic neurosis involves biological, sociological, economical and individual factors. To solve this problem means to secure assistance of all who are in control of them. The state, the industrialist, the insurance organization, the physician and the psychiatrist, by concerted effort can stop the growing number of cases of traumatic neurosis.

### DIAGNOSIS AND TREATMENT OF IRON-DEFICIENCY ANEMIAS

FRANK H. BETHELL, S. MILTON GOLDHAMER, RA-PHAEL ISAACS and CYRUS C. STURGIS, Ann Arbor, Mich., state that iron-deficiency anemia results from a lack of sufficient available iron for normal hemoglobin formation. Such a lack may be induced by (1) depletion of the iron reserves from continued loss of blood, (2) inadequate intake of food iron and (3) improper absorption of the element from the alimentary tract and, as a rare possibility, (4) from inability to utilize available iron. In women with achlorhydria, anemia may develop as the result of the physiologic loss of blood. In such cases a "conditioned deficiency" dependent on the lack of hydrochloric acid may be said to exist. The clinical features presented by patients with iron deficiency anemia are not specific. They include the effects of lack of hemoglobin supplemented by the manifestations of whatever associated condition may be present. By contrast, the blood in such patients possesses certain definite characteristics that are of diagnostic value. The relative decrease of hemoglobin exceeds that of the erythrocytes, and the average size of the red corpuscles is reduced, although proportionately to a less extent than the diminution of hemoglobin. Consequently, the color index and the mean erythrocyte diameter, volume, hemoglobin and hemoglobin concentration are below normal. The authors present—the effects of treatment with simple iron preparations of forty-two cases of iron-deficiency anemia, twenty-eight with achlorhydria. These results compare favorably with those reported by others employing combinations of iron with other substances in the treatment of the same type of anemia. Relatively large amounts of ingested iron are required for satisfactory clinical and hematologic improvement. Ferrum reductum, 1.5 Gm. daily, or ferric ammonium citrate, 4 Gm. daily, administered in three divided doses after meals, is therapeutically optimal. Following the institution of treatment a latent period, during which no change in the peripheral blood picture occurs, is attributed to the time required for maturation by the primitive erythrocytes in the bone marrow. In general, the blood of patients with acid gastric secretion responds more promptly to iron medication, and a smaller dosage of the element is required than is the case of those with achlorhydria. In both groups the erythrocyte and hemoglobin values are usually restored to normal after from six to eight weeks of therapy. Patients with achlorhydria often require continued treatment with iron in order to prevent recurrence of anemia. The administration of highly purified ferrum reductum in conjunction with a "low copper" diet did not detract from the efficacy of the iron, as evidenced by the rate of hemoglobin formation. (*Journal A. M. A.*, Sept. 15, 1934.)

# THE JOURNAL

OF THE

## *Michigan State Medical Society*

---

### PUBLICATION COMMITTEE

J. EARL McINTYRE, M.D., Chairman.....Lansing  
A. S. BRUNK, M.D.....Detroit  
HOWARD H. CUMMINGS, M.D.....Ann Arbor

---

### Editor

J. H. DEMPSTER, B.A., M.D.  
5761 Stanton Avenue, Detroit, Michigan

---

### Business Manager

B. R. CORBUS, M.D.  
2642 University Avenue, St. Paul, Minnesota, and  
313 Metz Building, Grand Rapids, Michigan

---

APRIL, 1935

---

## EDITORIAL

### LAY CONTROL

As we have said before there is no valid objection to voluntary insurance of any kind. It is a means the thoughtful and thrifty have of meeting a possible emergency be it sickness, accident, fire or other eventuality unforeseen and beyond one's control. The immediate concern, however, is health insurance which of course means provision by paying a specified sum to take care of the expenses incident to illness. This is commendable.

There has been much opposition to the compulsory principle among physicians. Let us examine some of the reasons for this apparently unreasonable attitude. Twenty-two years ago the Workingman's Compensation Law was enacted. The purpose is well known. The first few years it apparently worked satisfactorily for everybody. A workingman with a minor or major injury sought the service of his family doctor and was treated in the doctor's office, or if the injury were too severe, he was taken to the hospital, and at the termination of the indisposition, the doctor, or the hospital and the doctor, sent their bills to the insurance company and remittances were forthcoming. Today the whole matter of industrial medical care is controlled to a very large extent by private insurance companies

and the general practitioner finds himself deprived of a much needed source of revenue.

Then there is the Afflicted Adult's and Afflicted Child's Law; unsatisfactory because in many municipalities no provision was made to recompense the physician and surgeon for the care bestowed upon this class of patient. There has been an effort, however, in one or two counties, notably Wayne, to remedy this lapse in the operation of the acts. The board of auditors of Wayne County has been prevailed upon to make provision for the remuneration of the staffs of all the hospitals of Wayne County. This is good and as it should be. As a result the law as it stands provides for the compensation for both hospital and physician and surgeon attendants. There are evidently many afflicted adults who are non-surgical cases. An ideal law would be one that would permit a doctor to care for the patient in the patient's own home where the physician happened not to be a member of any hospital staff; such a law might well consider also the independent laboratory specialists, all of whom are taxpayers. We have urged it as a right that institutions or persons, lay or professional who are qualified and who are taxpayers are entitled to be considered when it comes to employment in which public funds are concerned. However, the fact that hospital staffs will not be asked to work for nothing is a great advance in fulfillment of the spirit of the afflicted adults' law, for which we are duly thankful; at the same time a hope is expressed that the problem in other counties of the state may be satisfactorily solved.

Then again the FERA. True it is presumed to be an emergency measure. Who can foresee, however, how long the emergency may last? The medical profession have always been ready to meet emergencies. Physicians are presumed to be paid for services rendered the indigent on relief to the extent at least of meeting the cost of such service. When it comes to x-ray and clinical laboratory examinations such service in some localities has been eliminated entirely, so far as the tax paying private physician is concerned. Patients requiring such examinations must be cared for by the municipal hospital. In many parts of the country, however, the remuneration for medical care does not cover the overhead.



We know of physicians who go on rendering necessary medical care to their indigent patients on welfare without remuneration.

A few examples of the operation of medicine by non-medical groups are sufficient to cause the profession to view with a certain misgiving the tendency to control by extra-medical agencies.

### THE SPECIAL MEETING OF THE HOUSE OF DELEGATES

The conclusions of the deliberations of the House of Delegates of the American Medical Association in special meeting in Chicago on the fifteenth and sixteenth of February will be found in this number of the JOURNAL. Our readers have undoubtedly read this report in the *Bulletin of the American Medical Association*. It is published in this JOURNAL, however, as a matter of record. Michigan was represented by our full quota of delegates. The House of Delegates in large measure reaffirmed its decalogue of the last annual meeting of the House in June and among other things acknowledged the right of county societies to go ahead with any plans of medical practice in the endeavor to meet what may seem to be local needs. These plans, however, must be in accord with the ten points already proclaimed by the House of Delegates. These have already appeared in this JOURNAL.

### DR. CORBUS RESIGNS AS COUNCILOR

Dr. Burton R. Corbus, who has been acting-secretary of the Michigan State Medical Society since the resignation of Dr. F. C. Warnshuis, has tendered his resignation as Councilor of the society for the fifth district. Dr. Corbus has held the position of councilor for the third term which ends in 1936. He has been chairman of the Council as well as chairman of the Executive Committee for a number of years. He agreed to act as secretary last August until a permanent successor would be appointed.

The past twelve years have been very important years in the history of the Michigan State Medical Society. The latter half of

the period ushered problems of an economic and social nature, practically unknown before in the history of the Michigan State Medical Society; they have demanded great judgment and insight. Dr. Corbus as chairman of the Council and of the Executive Committee has rendered invaluable service to the society which every member we hope fully appreciates. He has proven himself an executive of a high order and as presiding officer he has shown great tact and ability. He has given unstintingly of his time and experience.

He was graduated from the University of Illinois in 1900 with the combined degrees of B.S. and M.D. He began practice in Grand Rapids in 1906 where he has since carried on his professional work, confining his attention to gastro-enterology and internal medicine. He has been chief of the staff of the Butterworth Hospital for five years and is a member of the staff of the Blodgett Memorial Hospital, Grand Rapids. He is a fellow of the American College of Physicians and a member of the American Gastroenterological Association. Dr. Corbus' recreations consist, physically, of golf, and intellectually of history and biography of which he has been a life long student. He was president of the Kent County Medical Society in 1912 and Major with service in France during the World War.

In September next, Dr. Corbus' year as acting-secretary of the society will terminate when his successor, Dr. Ekelund, assumes active duties.

### MALPRACTICE

Dr. W. J. Stapleton, who has been for a number of years secretary of the Medical Defense Committee, is authority for the statement that the greatest single excitant cause of malpractice suits against physicians is thoughtless remarks by other physicians. No malice may be behind the expression of a judgment or opinion of another doctor's treatment. The excitant may be simply a shrug of the shoulder, or even that faint praise that so often damns. The remedy at once suggests itself. No remarks should be made nor any attitude assumed that would lead a dissatisfied patient to think that he had been mistreated by his former medical attendant.

In making this statement we are not unmindful of the duty of the physician along with every other responsible person to aid in the cause of justice where he feels the plaintiff may have a just claim. In expressing any opinion the physician is filling the role of unofficial judge. He has no means of knowing the extent to which the patient coöperated with his former physician. He has no means of knowing the circumstances under which former services were rendered; only the former medical or surgical attendant knows this. In the great majority of cases physicians do the best of which they are capable. Everything, the patient's interests, the physician's reputation and his future are against carelessness. In the practice of medicine strict attention to detail has in more than one sense a survival value.

Dr. Stapleton also impresses the advisability of x-ray examinations in all cases of injury, fracture or suspected fracture, a matter that is often neglected owing to the disposition of the attending physician to save the patient the expense of x-ray examination. The universal employment of the x-rays in injury cases would show that the attending physician was neglecting nothing in the matter of checking up on the progress of the treatment. Such a practice in the case of bone injuries would provide consultation and dated records of cases which would prove invaluable in the event of malpractice suit.

### WHEN IS A DOCTOR A LAYMAN?

This is the title of an editorial in the *Christian Century* in which comment is made on the recent pronouncement of the House of Delegates of the American Medical Association on the subject of Compulsory Health Insurance. "In general, the point of view of the resolutions is that only physicians are competent by experience and training to guide and control plans for the provision of medical care. What these doctors overlook, however, is that a physician is a medical practitioner only when he is practising medicine, not when he is making out his bills—he is then, for the time being, a business man." This, it seems to us, is splitting hairs. If physicians step

down off their professional pedestal and assume the rôle of business men when they make out statements, the majority of them make a sorrowful spectacle as business men, and would scarcely care to be known as such. The economic side of medicine is so interwoven with the professional side that the scientific and clinical phases of medicine would soon suffer and deteriorate if the financial side were to be regimented and controlled according to the caprice of non-medically trained persons. Perhaps the single word "regimentation" expresses the fears of the profession, more than any other word in the dictionary.

### THE BEAUMONT FOUNDATION LECTURES

The Beaumont Foundation Lectures are given each year under the auspices of the Wayne County Medical Society, usually in January or February. For a number of years they have appeared in the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY. Without exception the lecturers since and including the first lecturer in 1922 have been of national and international repute; the standard set by Dr. W. G. MacCallum, Professor of Pathology of Johns Hopkins Medical School who gave the first series, has been uniformly maintained.

The lecturer for the current year was Dr. Lewellys F. Barker, Professor Emeritus of Medicine of Johns Hopkins. The interest of the medical profession in both the lecturer and his subject was manifest by the fact that the hall could not hold all who sought admittance. The first lecture, "The Origin and Nature of Human Handicaps" of the general subject "Heredity and Environment in Relation to the Handicapped" appears in this number of this JOURNAL. The second will appear in May and a third on a different subject, "Major and Minor Medical Morals," will appear in June.

After the three lectures by Dr. Barker appear in this JOURNAL, a limited number will be published in book form. Members of the profession who wish to preserve these addresses in a single cloth covered volume may place their orders for them with the Beaumont Foundation, Wayne County Medical Society, Detroit, Michigan.



## A MOMENT OF MEDICAL HISTORY

W. T. D.

### THE DEVELOPMENT OF BOOKS

Surrounded as he is by books, newspapers and periodicals, the modern man is scarcely able to visualize the significance of the printed word in his life. He usually accepts the present without question and is vague about the past. If the refinements of modern printing—newspapers, professional journals, halftones and color prints—were to disappear one by one, the tremendous advances in printing would be clear. The period before Gutenberg would seem sterile; yet this period was marked by a number of inventions no less important than that of printing.

One of the most important of the world's inventions was the alphabet, which appeared in Asia Minor about three or four thousand years ago. The alphabet by providing the basis for phonetic writing has given a durable form to thought as expressed in language. Though hieroglyphic and pictographic writing had long been known in Egypt and in the Far East, these methods of conveying ideas were largely limited to the regions of their origin. Phonetic writing, in which standard characters or letters represented specific sounds, spread from Asia Minor to form the written languages of the Greeks, Latins, Hindus, Arabs and Teutons, as well as a number of obsolete or purely local languages. The Greek alphabet in its typical form is but little older than the poetry of Homer, while the Latin characters, a combination of Greek and Etruscan, were more or less standardized in the fifth and sixth centuries B.C. With the exception of the letters *j*, *u* and *v*, which were added to Latin script during the Middle Ages, the classical alphabet has undergone little change. For five hundred years, the Latin characters, which make up the English alphabet of today, have been almost identical in spite of nationalistic movements and widespread use.

Along with the invention of efficient means of written expression, many types of writing materials came into use. Among

these were strips of cloth, flat pieces of wood or metal, slabs of clay and panels of wood covered by wax. The nature of these materials limited their use to documents and memoranda. Longer works, such as books, required a lighter and more flexible material to make their form practicable.

In the remote antiquity of Egypt, at the time of early hieroglyphic writing, papyrus served as a common writing material. The papyrus reed growing in the Nile region was split into thin longitudinal strips which were laid side by side. A second layer was superimposed at right angles to the first. After soaking in water, the layers of strips were pressed together and dried to form a white, or slightly brownish, flexible sheet. After surface irregularities were smoothed by rubbing with a piece of shell or ivory, and the sheets were glued together in a row, the papyrus formed a durable and convenient writing material. A long roll of papyrus when written upon was called a volume, the equivalent of the modern book. The use of papyrus spread from Egypt to Greece and Rome as well as to other Mediterranean regions.

Writing on the papyrus was done in ink. Though a thin ink of gall nuts and iron sulphate similar to modern inks was sometimes used, thickish inks composed of the fluid of the cuttle-fish or of lamp-black and gum were more common. The pen consisted of a tubular reed or calamus which was sharpened and split.

In ancient Greece, books were prepared by professional scribes, who were commissioned to make copies of manuscripts for individual readers. During the Athenian Age, in particular, books were secondary to the transmission of ideas by word of mouth. Teaching and argument were the favorite methods of communication among the Greeks. Copies of the words of famous teachers, however, were frequently in the hands of pupils or had wider circulation. In many places where an academy or school had been established, manuscript copies of works were accumulated in libraries. Many of the old Greek manuscripts have been preserved to the present in libraries which were associated with the early monasteries of Constantinople.

The scribe among the Romans was usually a slave who was employed by scholars to transcribe the work of favorite authors.

Among the ancients, copies were made as needed, though extensive collections of manuscripts were accumulated by wealthy patrons or by rulers. The library at Alexandria was the most extensive of these. Legend has it that a certain king of Pergamum who wished to establish a library comparable with that of Alexandria was unable to procure papyrus in quantities sufficient for the purpose. Attention was turned to the skins of animals with the result that parchment was invented. This material, unlike papyrus, could be used on both sides. Parchment and vellum, as well as papyrus, served as writing materials up to the Middle Ages. At this time, papyrus became rather rare.

Scholarship, during the Middle Ages, was practically limited to the monasteries. Monks of the Benedictine, Clunian and Carthusian orders copied manuscripts, especially those in Latin, and founded libraries of considerable size. These collections, however, consisted predominantly of religious works and the pagan classics.

In the Arabian cultures south of the Mediterranean, classical and scientific works of Greek, Alexandrian and Byzantine origin were translated and copied to form the nucleus of Arabian literature. Works on alchemy, astrology and medicine were extensively copied. Explanations or commentaries on these together with purely literary works added to the extent of Arabian literature.

With the increased contacts between Europe and the Mohammedan countries following the Crusades, Europeans became aware of the extent of Islamic culture. By studying and copying the manuscript books of the Mohammedans and by translations, new horizons were revealed. So great was this activity that, during the later Middle Ages and the early Renaissance, it became one of the most extensive of intellectual pursuits.

It was through Arabia, likewise, that Europe learned of paper, the material which revolutionized the making of books. In 751, the Arabs fought the Chinese at Samarkand in what is now Turkestan. They captured a number of Chinese paper-makers and through them learned of a new material. As early as 105 A.D., the Chinese had discovered how to make rag paper and had used it in art, literature and even in the

making of paper money. During the ninth and tenth centuries, paper began to replace papyrus among the Arabs. Communication with the Arabs and contact with travelers returning from the Far East led to the establishment of paper-making in Europe during the late twelfth and early thirteenth centuries. By the fifteenth century, paper had replaced parchment and vellum. The use of paper and other writing materials in Europe and the copying and preparation of manuscripts called for specialized crafts. Under the guild system, paper-makers, stationers, copyists and illuminators were governed by vigorously prescribed rules and trade agreements. In Florence, these crafts were subsidiary to the Guild of Doctors and Apothecaries. The stationers provided material for the copyists who accepted commissions for duplicating manuscripts. If illustrations or elaborate initials were wanted, an illuminator coöperated. Members of the binders' craft completed the work.

It was customary for an author to select a patron, usually the pope, the emperor, a prince or other dignitary to whom he sent his manuscript. The patron was then under obligation to further the circulation. No copies could be made without his permission. This practice together with the actual copying of the manuscript constituted publication. Frequently, the author was his own publisher. He secured the copyists and was overseer and reviser of the work. When several copies had been sent to patrons and friends who were authorized to permit copying, the book was considered published. After a book had been given to the public, booksellers or stationers could borrow the work to have it copied for a customer.

As in earlier times, the inmates of monasteries copied manuscripts. Monks were the only persons privileged to compete with members of the copyists' or illuminators' craft. Many of the monasteries were provided with a scriptorium or copying room which accommodated one to a dozen writers. A transcriber was obliged to copy exactly what was in the manuscript; even errors were not corrected. Sometimes, a reader dictated to the transcriber. As pages were completed, they were checked by a corrector.

From the monasteries, the copying of manuscripts passed to the universities, and



authorized copyists were licensed and controlled by the universities for the production of textbooks. The medical schools of Salernum, Montpellier and Paris, acquired prominence due to their collection of manuscripts. Because of the expense of transcribing books, students became familiar with the literature of their chosen field by copying library books, by preserving the notes from the lectures and readings of their professors or by renting books.

The labor of transcription and illumination combined with the lavishness of bindings (sometimes gilt or jeweled) contributed to the high cost of books. Therefore, few persons had the wealth to acquire an extensive library and the very possession of books became a sign of culture and affluence.

Because of the expense and labor of copying, the development of printed books was particularly important in the dissemination of knowledge. Though Johann Gutenberg probably invented printing with movable type (about 1445) and popularized the printed book, he was not the first printer. This invention like that of paper came out of China. During the Tang dynasty (618-907), the method of block-printing was developed. Characters were drawn on a smooth block of wood and the surrounding material was cut away. The raised characters were then covered with ink, and paper was pressed against the inked portions by hand. The earliest block prints consisted of religious pictures and seals. Books composed of block prints appeared as early as the ninth century. The process of block printing spread throughout Asia and, although the Arabs were in contact with the Chinese for several centuries, they did not take up printing as they did the making of paper. The *Koran* was written, not printed, they argued; therefore, printing was not a recognized method of copying. In the fourteenth century, travelers brought block prints from China to Europe. By the middle of the fifteenth century, block prints were somewhat widespread in Europe in the form of playing cards and as religious pictures. Block printed books were made about the same time that Gutenberg independently discovered printing with movable type.

In China, during the eleventh century, attempts had been made to use movable type,

but these were never satisfactory. In spite of the development of type characters of clay and metal and of type molds, movable type was limited in China because of the tremendous number of characters involved, about thirty thousand being required for a font of type. Then, too, the ink used by the Orientals was a watery mixture of lamp-black poorly adapted to metal type, though it served well enough for wood-block printing.

The re-invention of printing by Gutenberg involved two entirely new departures from the older methods. He used an oily or greasy ink and developed a printing press from the ubiquitous winepress. Gutenberg's object in printing was to duplicate the character of the written manuscript which, in his time, had become ornate and elaborate. The type which he cast, therefore, was an exact duplicate of that found in the written manuscript. Letters were cut on soft steel punches to produce dies and these were driven into soft metal to produce the matrix. Molten metal was poured over the matrix and, in this way, one letter was cast at a time. The type was set by hand and pages were pulled one by one. Because of the softness of type, editions were usually limited to two hundred fifty copies, so that for popular works, new editions were issued every few years. Gutenberg's methods were learned by John Fust and Peter Schoeffer among others, and Mainz, in Germany, became the center of the new industry. In 1462, Mainz was captured and largely destroyed by the army of Adolphus of Nassau with the result that printers were scattered throughout Europe. In a year or two, printers were active in numerous towns in Germany, France and Italy. William Caxton, the first English printer, was established in 1475. During the first two decades of printing, Roman type, differing from the common manuscript letters, was designed; illustrated printed books appeared; and books having several colors printed on a page were produced. The Roman type and the manuscript or semi-Gothic type vied with one another for supremacy during the remainder of the fifteenth century, by which time the Roman type became standard and has persisted so with practically no modification to the present. The semi-Gothic type, however, remained common in Germany where, through

nationalistic pride in the invention of printing, that type of character still exists with slight change as the standard German letter-face.

The earliest books printed were on religious subjects or were general compendia of information culled from varied sources. Publishers in searching for material to print looked to the classics and to Arabian authors; medieval and contemporary authors followed. Books printed before 1500 numbered some thousands of editions and these are now known as incunabula or books of the cradle period of printing.

#### DR. CHRISTIAN—A TRIBUTE

Suddenly on February 5, Dr. Edmund A. Christian, former president, and charter member of the Oakland County Medical Society at its reorganization in 1902, was claimed by death. Scarcely twenty-four hours before, he himself publicly had closed his active, life-long medical career of 53 years at the Pontiac State Hospital by becoming its Advisory Medical Superintendent Emeritus. As enduring monuments he leaves behind his many contributions to psychiatry, years of public service rarely rivaled, an influence on local civic government, the highest esteem of his professional confreres, and great respect of his fellow citizens. From his marital life there are three daughters. The completed picture is one of an able, nicely-balanced man, who, while serving those of disordered mind, met life's challenges clearly and unusually well.

From the time of its new inception in 1902 until 1908 Dr. Christian was a member of the board of directors of the society. In 1910 he was returned to office again as vice president, the succeeding year to serve as president. The value of the work of those earlier leaders, and their trials, are better understood, when it is recalled, as now with a sparkle, that for over ten years the old society was unable to elect a president because of schism.

The glittering obituary by his co-workers, the tributes of the local press, the honors of his State, the praise of his professional and civic friends are but indices of the manner in which time will point to him.—*Bulletin Oakland County Medical Society.*

#### MEDICAL ECONOMICS

(*New England Journal of Medicine*)

The medical profession is showing a very definite interest in the economic problems of medical care throughout the country because of the inclusion of individual and community perplexities. There is agreement of the public and practitioners that illness must be given adequate service and the physician must have his due recompense, but just how their dual obligations can be met is one of the important questions of the day.

In times of general prosperity, the average well-equipped doctor felt no great concern about his income and was willing to sandwich in a fair proportion of charity work with his paying clientele, but now he is too often giving an undue share of time to free service so that he is participating in the anxieties of the average citizen, in the difficulties imposed by the general depression. Many experiments which provide for prepayment of hospital bills are under way, but fewer which arrange for the payment of physicians' fees by the low income groups are in operation.

#### REPORT OF THE REFERENCE COMMITTEE SPECIAL SESSION HOUSE OF DELEGATES

February 15 and 16, 1935

Your reference committee, believing that regimentation of the medical profession and lay control of medical practice will be fatal to medical progress and inevitably lower the quality of medical service now available to the American people, condemns unreservedly all propaganda, legislation or political manipulation leading to these ends.

Your reference committee has given careful consideration to the record by the Board of Trustees of the previous actions of this House of Delegates concerning sickness insurance and organized medical care and to the account of the measures taken by the Board of Trustees and the officials of the Association to present this point of view to the government and to the people.

The American Medical Association, embracing in its membership some 100,000 of the physicians of the United States, is by far the largest medical organization in this country. The House of Delegates would point out that the American Medical Association is the only medical organization open to all reputable physicians and established on truly democratic principles, and that this House of Delegates, as constituted, is the only body truly representative of the medical profession.

The House of Delegates commends the Board of Trustees and the officers of the Association for their efforts in presenting correctly, maintaining and promoting the policies and principles, heretofore established by this body.

The primary considerations of the physicians constituting the American Medical Association are the welfare of the people, the preservation of their health and their care in sickness, the advancement of medical science, the improvement of medical care, and the provision of adequate medical service to all the people. These physicians are the only body in the United States qualified by experience and training to guide and suitably control plans for the provision of medical care. The fact that the quality of medical service to the people of the United States today is better than that of any other country in the world is evidence of the extent to which the American medical profession has fulfilled its obligations.

The House of Delegates of the American Medical Association reaffirms its opposition to all forms of compulsory sickness insurance whether administered by the Federal government, the governments of the individual states or by any individual industry, community or similar body. It reaffirms, also, its encouragement to local medical organizations to establish plans for the provision of adequate medical service for all of the people, adjusted to present economic conditions, by voluntary budgeting to meet the costs of illness.

The medical profession has given of its utmost to the American people, not only in this but in every previous emergency. It has never required compulsion but has always volunteered its services in anticipation of their need.

The Committee on Economic Security, appointed by the President of the United States, presented in a preliminary report to Congress on January 17 eleven principles which that Committee considered fundamental to a proposed plan of compulsory health insurance. The House of Delegates is glad to recognize that some of the fundamental considerations for an adequate, reliable and safe medical service established by the medical profession through years of experience in medical practice are found by the Committee to be essential to its own plans.



However, so many inconsistencies and incompatibilities are apparent in the report of the President's Committee on Economic Security thus far presented that many more facts and details are necessary for a proper consideration.

The House of Delegates recognizes the necessity under conditions of emergency for federal aid in meeting basic needs of the indigent; it deprecates, however, any provision whereby federal subsidies for medical services are administered and controlled by a lay bureau. While the desirability of adequate medical service for crippled children and for the preservation of child and maternal health is beyond question, the House of Delegates deplores and protests those sections of the Wagner Bill which place in the Children's Bureau of the Department of Labor the responsibility for the administration of funds for these purposes.

The House of Delegates condemns as pernicious that section of the Wagner Bill which creates a social insurance board without specification of the character of its personnel to administer functions essentially medical in character and demanding technical knowledge not available to those without medical training.

The so-called Epstein Bill, proposed by the American Association for Social Security now being promoted with propaganda in the individual states, is a vicious, deceptive, dangerous and demoralizing measure. An analysis of this proposed law has been published by the American Medical Association. It introduces such hazardous principles as multiple taxation, inordinate costs, extravagant administration and an inevitable trend toward social and financial bankruptcy.

The committee has studied this matter from a broad standpoint, considering many plans submitted by the Bureau of Medical Economics as well as those conveyed in resolutions from the floor of the House of Delegates. It reiterates the fact that there is no model plan which is a cure-all for the social ills any more than there is a panacea for the physical ills that affect mankind. There are now more than 150 plans for medical service undergoing study and trial in various communities in the United States. Your Bureau of Medical Economics has studied these plans and is now ready and willing to advise medical societies in the creation and operation of such plans. The plans developed by the Bureau of Medical Economics will serve the people of the community in the prevention of disease, the maintenance of health and with curative care in illness. They must at the same time meet apparent economic factors and protect the public welfare by safeguarding to the medical profession the functions of control of medical standards and the continued advancement of medical educational requirements. They must not destroy that initiative which is vital to the highest type of medical service.

In the establishment of all such plans, county medical societies must be guided by the ten fundamental principles adopted by this House of Delegates at the annual session in June, 1934. The House of Delegates would again emphasize particularly the necessity for separate provision for hospital facilities and the physician's services. Payment for medical service, whether by prepayment plans, installment purchase or so-called voluntary hospital insurance plans, must hold, as absolutely distinct, remuneration for hospital care on the one hand and the individual, personal, scientific ministrations of the physician on the other.

Your Reference Committee suggests that the Board of Trustees request the Bureau of Medical Economics to study further the plans now existing and such as may develop, with special reference to

the way in which they meet the needs of their communities, to the costs of operation, to the quality of service rendered, the effects of such service on the medical profession, the applicability to rural, village, urban and industrial population, and to develop for presentation at the meeting of the American Medical Association in June model skeleton plans adapted to the needs of populations of various types.

(Signed)

DR. HARRY H. WILSON, *Chairman*, California.

DR. WARREN F. DRAPER, Virginia.

DR. E. F. CODY, Massachusetts.

DR. E. H. CAREY, Texas.

DR. N. B. VAN ETTEN, New York.

DR. F. S. CROCKETT, Indiana.

DR. W. F. BRAASCH, Minnesota.

## MAIMONIDES

(To the 800th anniversary of his birth)

Critico-biographical Sketch

Leon Saunders†

On the 30th day of March of this year, the world of philosophy and of medicine will celebrate the 800th anniversary of the birth of one of the most remarkable personalities of the world, *viz.*, Moses ben Maimon, better known as Maimonides, talmudist, philosopher, astronomer and physician, a universal genius, a Leonardo da Vinci of the 12th century. Maimonides was born in Cordova, Spain, the birthplace of Lucan, Seneca and Averroes. It was during his early youth that Cordova fell into the hands of the fanatical Almohades, and the Maimon family was compelled to chose between Islam and exile. Although Moses later advised that if one has to chose between a religious formula and death, one should change the formula, his father thought differently, and having chosen exile, after long peregrination, finally settled in Cairo, Egypt. Considering it a sin to earn a livelihood from religion (What a singular attitude!), he adopted medicine as his profession, with the result that he was appointed private physician to Saladin's Vizier, Ab-Kadi-al-Fadil.

The method used by Maimonides in his profession, was to begin with a simple treatment and diet before administering drugs. The universality and immensity of the range of his activities is truly remarkable. But more remarkable was the fact that in those dark, intolerant years appeared a man with enlightened views who had vision to teach: "Know the God of thy father, and serve Him, *but with open eyes.*" And that was the basis of Maimonides' religious teachings. He belongs to the religious philosophers, but like Francis Bacon he had the right to say that he took all learning to be his province. Being a true son of his race and of his time, he was a thorough believer in the Divine Providence, Free Will and Immortality of the Soul, and with that he combined a searching mind and a rationalistic curiosity.

In answering the question as to the value of astrology, he says: "Man should believe only what can be supported by rational proof, by the evidence of the senses, or by trustworthy authority." He affirmed that he studied astrology and that it does not deserve to be described as a science.

His greatness as a physician was recognized and

†Mr. Saunders is a Detroit Attorney and a member of the Detroit Philosophical Society, before which the address commemorating the 800th anniversary of the birth of Maimonides was presented. This paper is a condensed account of Mr. Saunders' address.

the Arabic poet, Al-Said-ibn Surat sang it in ecstatic verse, which, translated into English reads as follows:\*

Galen's art heals the body,  
But Abu Imam's (Maimonides') the body and soul.  
With his wisdom he could heal the sickness of ignorance,  
If the moon would submit to his art, he could cure her  
Of her periodic defects . . .

The list of his contributions to science is too long to enumerate here. It includes:

An Essay on the Jewish Calendar, based on astronomical principles.

Fial-Jamah'—On sexual intercourse.  
Fial Bawasir—On hemorrhoids.  
Makalah-fi al Rabu—On asthma.  
Essays on hygiene.

Maimonides' real greatness consists in his philosophical works. Despite the wide gap between the modern intellectual attitude and the views of his time, we can appreciate his achievement by judging him with reference to his own time.

When we realize that he absorbed all the thought-currents of his time, that he was their faithful expounder, and that at the same time he was gifted with an accurate historic instinct, making him wholly objective, we will recognize him as "The genius of his peculiar epoch."

The work containing Maimonides' deepest thoughts and knowledge was "Moreh Nevuchim," in Latin "Doctor Perplexorum," or "The Guide of the Perplexed." The appearance of this book created a tremendous stir in the world. The enlightened part of the world received it with delight, and proclaimed the author as a new leader, a new Moses. The rest of the world, especially the orthodox synagogue became infuriated and scented in him a dangerous prophet, a harbinger of new ideas, which should be exterminated in its inception. What was this book? A cyclopedia of science, a new system of philosophy? Neither the one or the other.

The Guide of the Perplexed is a rational theology with a philosophic basis. The purpose of it was to lead people "to an eminence on which religion and philosophy meet in perfect harmony," or as he himself expressed it: "I have composed the work neither for the common people nor for beginners, nor for those who occupy themselves only with the Law as it is handed down without concerning themselves with its principles. The design of this work is to guide those religious persons who have studied philosophy and are embarrassed by the contradictions between the teachings of philosophy and the literal sense of the Bible."

Maimonides was under the influence of Aristotle, the autocrat of the Middle Ages, who was to him in authority next to the Bible. And to interpret the Bible meant to interpret it from Aristotle's viewpoint. According to Maimonides, there is no contradiction between the truth which God has revealed and the truths which the mind, a power derived from God, has discovered.

Maimonides characterized his own work as "The true science of the Bible." Albertus Magnus cites Maimonides; Thomas Aquinas agrees with him. Spinoza was influenced by him, and quotes him frequently. Moses Mendelssohn built his system on Maimonides' "Guide of the Perplexed," and some claim that in certain respects, Kant's religious philosophy is based on Maimonides'.

Today his work is a manual of religious philosophy treasured by Judaism. It is impossible in the limited space of this sketch to enumerate all the works of Maimonides, his numerous books and essays and give an adequate account of his monu-

mental work of the Complete Commentary on the Talmud.

Maimonides died in his seventieth year. Jews and Mohammedans observed public mourning for three days for the great Rambam. He occupies an important place in the history of religious thought and science in general. His last but not the least claim on appreciation by humanity lies in the fact that he preached enlightenment and tolerance in the darkest years of history, and it was of him that was said: "From Moses (the Prophet) to Moses (Mendelssohn) there was none like Moses."

## THE COUNTRY SURGEON

Luckless is he, whom hard fates urge on  
To practise as a country surgeon—  
To ride regardless of all weather,  
Through frost, and snow, and hail together—  
To smile and bow when sick and tired  
Consider'd as a servant hired.  
At every quarter of the compass,  
A surly patient makes a rumpus,  
Because he is not seen the first,  
(For each man thinks his case the worst).  
And oft at two points diametric,  
Called to a business obstetric.  
There lies a man with broken limb,  
A lady here with nervous whim,  
Who, at the acme of her fever,  
Calls him a savage if he leave her.  
For days and nights in some lone cottage  
Condemn'd to live on crusts and pottage,  
To kick his heels, and spin his brains,  
Waiting, forsooth, for labour's pains;  
And that job over, happy he,  
If he squeeze out a guinea fee.  
Now comes the night, with toil oppress,  
He seeks his bed in hope of rest;  
Vain hope, his slumbers are no more,  
Loud sounds the knocker at the door,  
A farmer's wife, at ten miles' distance,  
Shouting, calls out for his assistance:  
Fretting and fuming in the dark,  
He in the tinder strikes a spark,  
And, as he yawning heaves his breeches,  
Envies his neighbour blest with riches.

Quis.

*Edin. Ann. Register*, 1817.

## HYPOPHYSEAL GONADOTROPIC HORMONES

Philip E. Smith, New York, points out that work on the gonadotropic substance from the hypophysis and from other sources (from castrate and menopause urine) strongly indicates that the principle commonly designated as the gonad-stimulating principle is composed of two principles. One of these, a gametokinetic (follicle stimulating) principle, has been secured in a fair degree of physiologic purity by fractionation of the anterior hypophysis, and it is also present with little or no contamination with other hormones in the blood and urine after the menopause and ovariectomy. Work with the other principle is somewhat less satisfactory. It appears that the other factor, which may at this time be designated as a "luteinizer," causes luteinization of the ovary. It presumably acts also on the interstitial tissue of the testicles. The present indications are that in the therapy of hypogonadism due to a hypophyseal deficiency the administration of one or the other or a proper mixture of these two factors will be required to induce normal gonadal function.—(*Journal A. M. A.*, Feb. 16, 1935.)

\*Jewish Cyclopedia, Vol. 1x, P. 80.



**POSTGRADUATE EDUCATION**

*The following courses will be given during 1935 in Detroit:*

Proctology	April 29, 30, May 1
Genito-urinary Diseases	May 2, 3 and 4
Gynecology, Obstetrics and Gynecological Pathology	May 6-10, inclusive
General Medicine	May 13-17, inclusive
Traumatic, Emergency and Minor Surgery	May 20-24, inclusive
Pediatrics	May 27, 28 and 29

*The following courses will be given during 1935 in Ann Arbor:*

Electrocardiography	April 1-6, inclusive
Ophthalmology and Otolaryngology	April 22-27, inclusive
Diseases of Metabolism	May 27-June 1, inclusive
Roentgenology	June 24-August 2
Diseases of Blood and Bloodforming Organs	From 2:00 to 4:30 p.m. each Thursday for eight weeks, beginning April 4
Surgery	From 3:00 to 5:00 p.m. each Thursday, for eight weeks, beginning March 28

---

The enthusiastic response to the teaching program given in Grand Rapids, Flint, and Battle Creek-Kalamazoo, jointly, in 1934, at which 796 doctors registered, warrants the continuation of this program, as well as an extension to other centers of the state. Accordingly, a postgraduate program will be conducted this autumn in:

Battle Creek-Kalamazoo, jointly  
 Grand Rapids  
 Flint  
 Bay City  
 Manistee, Cadillac, and Traverse City, jointly  
 Alpena, Petoskey, jointly

The arrangement of these programs is now practically completed and the outline of each will be available on application to The Department of Postgraduate Medicine, University Hospital, Ann Arbor, Michigan.

# DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

## THE FIRST YEAR

Under the title "The First Year" the *Detroit Medical News* of March the fourth contained the following interesting account of the Wayne County plan of credit to patients which enables them to liquidate their indebtedness to the physician and surgeon, hospital, nurse, or it may be dentist, under a postpayment plan. The writer intimates that the first year has been more or less an experiment. Judged from its reception by the patient, the industrialist and the medical and lay press, the experiment has been productive of results that justify its continuance, not merely as an experiment but as a settled policy. It has many merits; besides being satisfactory to the patient, it has the further advantage of retaining medical practice in the hands of the profession. It is "group practice" on a scale that includes the entire membership of the county society who want to be included.

### The First Year

The Wayne County Medical Society Bureau completed its first year of service on February 16, 1935. Three hundred sixty-five days previously the Council of the Wayne County Medical Society authorized the organization of the Bureau so the Society's service to the public might be complete, and the Wayne County Medical Society building might become the "medical service center" of Wayne County.

**Purpose:** The Bureau assures employed workers of small means that they can go to the doctor of their choice and receive medical care when they need it. The Bureau also assures patients that all necessary service will be rendered—that if, in addition to the family physician, the patient requires the services of a specialist or a dentist or a hospital or a nurse or a pharmacist, such service will be made available. The present practice of medicine is not disturbed in any iota. The Bureau works out a plan or budget for workers whereby the account can be paid out of future earnings. The set-up is one of "post-payment" not prepayment. It helps workers who have no cash reserves. It gives these people what they want—*Credit* not charity.

### STATISTICS ON FIRST YEAR'S OPERATION

Number of patients.....	1,739
Total professional fees.....	\$142,349.50
Total collections.....	45,743.16
Ratio of "up-to-date" accounts.....	55.6%
Actual collections amounted to of an estimated "perfect".....	64.6%
Patients referred by:	
Doctors.....	53 %
Industry.....	30.5%
Charity Agencies.....	16.5%
Patients hospitalized.....	63 %
Patients not hospitalized.....	37 %

**Industrial Coöperation:** Approximately 40 industrialists have been contacted and all are coöperating with the Bureau. These concerns employ approximately 250,000 men. Many other companies are co-operating with the Bureau although the Bureau's plan has never been explained to them except by brief telephone conversations. No industrial concern has refused to coöperate.

While the Wayne County Medical Society Bureau, during its first year, has handled all patients referred to it, it has made no attempt to boom its volume of cases. The Board of Trustees of the Wayne County Medical Society felt that several thousand patients would be sufficient to test the procedure. This is typical scientific caution; in an experiment, the scientist uses a test-tube knowing that a painful of ingredients would be hard to handle and more difficult to observe, in addition to being more expensive. The small administrative staff of the Bureau could not handle a large volume until all procedures had been tested and tried in actual practice. The first year has been utilized by the Bureau to try out, test and accept or reject the procedure necessary to its functioning. The groundwork has been laid for future expansion and a definite program has been outlined. Fundamental policies of the Bureau have not changed although the experience of the first twelve months has shown the wisdom of minor adjustments in methods.

The Wayne County Medical Society Bureau has attracted national attention, and the set-up has been quoted frequently in medical journals, both national, state and county, as well as in lay magazines and newspapers. From statements received from many parts of the country, it is apparent that the medical world approves a plan of coöperation (such as the Detroit plan).

Socialists and rabid proponents of sickness insurance and similar prepayment plans will point out items in the Wayne County Medical Society set-up which they will claim represent basic and insurmountable objections. Having access to national magazines, they will undoubtedly attempt to blast the Detroit demonstration at every opportunity. However, as in all matters, truth will out and the Bureau is confident that every knock will be a boost.

The daily evidence of gratitude from patients served is the stimulus to the Board of Arbitration and the Officers of the Wayne County Medical Society to go ahead with the plan and further the service of the Bureau.

The most important man—the patient—believes in and is satisfied with this set-up. The allied professions also believe in this postpayment program. But, the paid sociologist remains critical and dissatisfied.

The Wayne County Medical Society created the Medical Service Bureau to demonstrate to the country that the allied medical professions could meet the challenge of today—could solve their own problems in a thoroughly American manner without pauperizing the recipients of such service and without destroying the accepted fundamentals of good medical practice, such as, the patient-doctor relationship and the unrestricted choice of physician.



## MEDICAL RELIEF IN ONTARIO

In February of this year the Provincial Government of Ontario turned over the administration of medical relief to the Ontario Medical Association. The several County Medical Societies of that province are now involved in the task of setting up administrative machinery to facilitate the discharge of their collective responsibility as new agents of government.

For several years past medical relief had been handled through the Minister of Welfare and physicians had been paid a flat rate of one dollar per service rendered. Services were limited to home and office practice, strictly; all minor surgery, fractures, x-ray and laboratory work was referred to hospitals. This arrangement was unsatisfactory, not only to the profession but to the government as well. Costs had trebled in a year and had varied in different areas between 15 and 37 cents per person per month. Under the present plan the Provincial government pays to the Ontario Medical Association, twenty-five cents per person per month and leaves it strictly up to the doctors.

At the present writing the several county societies of the Province have carried out no uniform plan of administration. The following principles have been set down, however, at a meeting of the Council of the Ontario Medical Association. (Their Council corresponds to our House of Delegates.)

1. Each municipality will furnish to the government a list of all relief clients, not only the head of the family but all dependents. The government pays 25 cents each month for each person so registered, to the Ontario Medical Association to use in its own way for medical relief.

2. Freedom of choice of physicians and freedom to change medical advisors is to be insured without red tape.

3. The Ontario Medical Association has a medical relief committee in charge of the program in the entire Province and each county has a local committee. The local committee consists of three doctors, one druggist and a welfare administrator and its chief function is to audit and approve all bills for services.

Thus, if a given municipality has 4,000 persons on relief, the government would set aside \$1,000.00 for medical services. If the doctors' bills are \$1,500.00 the "pot" would be split, the doctors getting two-thirds of their bills at standard rates. The percentage will obviously vary from month to month according to the demands for medi-

cal service. It is estimated that 4 per cent should be set aside for administrative costs. Fees are to be uniform throughout the province but consultants get 50 per cent more when a case is referred by a general practitioner. There are no provisions for hospitalization.

Probably the most ambitious administrative plan in the entire Province is being set up in Essex County where, in the Border Municipalities alone, the present case load is about 26,000. The local committee there has patterned the County Emergency Relief Administration as operated in Oakland County, Michigan, with variations imposed by differences in principle. They are now making use of the "punch card" system of record keeping and will undoubtedly find administration greatly facilitated by the ease with which tabulations of almost any sort can be made. Administrative costs are apt to be temporarily increased through the added expense of setting up all the cards to begin with but should ultimately lead to far greater economy and efficiency and for much more careful control of the entire service.

As this is written other counties in the Province are struggling with the problems of organization and are operating temporarily on adaptations of methods in use last year. During the early months many difficulties will inevitably arise and the story of progress made by our "*fratres medicinae*" from across the lakes, should prove highly interesting as it gradually unfolds.

As far as we know Ontario is the first state to ask organized medicine to draw up its own conditions for working. The organized profession has become, in point of fact, an authorized arm of government administering a governmental function. The Ontario profession is to be congratulated for having risen to its responsibility and for having undertaken the job on such short notice. It is recognized both by the profession in Ontario and by the Provincial Government that the plan is an experimental one and may be terminated by either party on reasonable notice. But it is particularly important in that it reflects unusual enlightenment, in governmental authority as well as within the profession, to have recognized the situation as one to be dealt with most logically by the medical profession. The final vote upon which the plan is based

was 89 to 3, a remarkable unanimity of agreement and spirit of coöperation on the part of the Council of the Ontario Medical Association.

## HAVE YOU PAID YOUR DUES?

Section 2, Chapter 8, By-Laws of the Michigan State Medical Society provide that—

"Any member in arrears after April first of each official year shall stand suspended until his name is properly recorded and his dues for the current year properly remitted."

By action of the Council, the dead-line has been extended to April 15. Please see your County Secretary at once. Protect your medical-legal defense and your JOURNAL subscription.

## LEGISLATION

The following bills directly and indirectly affecting the profession, have been introduced during this session of the Legislature.

House Bill No. 97 (Gedda). To amend Act 146, 1919, to provide for the appointment of a State Health Commissioner, etc., makes possible the appointment of a resident deputy in the Upper Peninsula.

House Bill 111 (Martin). To provide for the establishment of unemployment, old age and social insurance and for other purposes.

House Bill No. 84 (Priest). To amend Act 167, 1933, an Act to provide for the raising of additional public revenue by prescribing certain specific taxes, fees and charges for the privilege of engaging in certain business activities, etc. (This amendment is designed to produce revenue to the several counties of the state for the care and treatment of afflicted adults and children, and for widows' pensions.)

House Bill No. 130 (Post). To amend Act 115, 1929, an act to create a tuberculosis sanatorium commission, etc. The Amendment relieves the County of residence from obligation to reimburse the State for indigents' care.

House Bill No. 256 (Pullen). To amend Section 10 Act 151, 1923, as amended 1929. This bill would raise the examiner's fee for certifying as to the mental condition of probate cases to "not less than \$5.00 and ten cents a mile for travel."

House Bill No. 157 (Wood). To amend the present Afflicted Child Act, placing the cost upon the County unit and its administration under the Michigan Crippled Children Commission, "who shall fix a reasonable schedule of compensation for hospital, physician or surgeon, approved to care for such committed children, to be paid by County Treasurer through the hospital to which the child is committed."

Senate Bill No. 45 (Luecke). To amend the Employers' Liability Law so as to provide for the incapacity or disability of an employe from any disease or injury proximately caused by or arising out of and in the course of his employment.

House Bill No. 92 (Haight). "Employers Liability" amended to compensate for disabilities or death resulting from occupational injury or disease arising during the course of his employment.

House Bill No. 45 (Faircloth). To amend Act 133, 1931, directing Tuberculosis Commission to im-

mediately start construction of Northern State Tuberculosis Sanitarium at or near Gaylord.

House Bill No. 153 (Mosier). To define the qualifications of coroners. This amendment provides that counties of 30,000 inhabitants shall have a registered physician or surgeon as coroner, and sets the minimum salary for coroners in counties of 250,000.

Senate Bill No. 278. A bill to create a board of registration for nurses and trained attendants.

Senate Bill No. 281. A bill to generally revise the osteopathic act.

House Bill No. 381. A bill providing that hospitals shall have liens on rights of actions against injury of patients.

## ANNUAL CONFERENCE OF COUNTY SECRETARIES

The annual conference of County Secretaries of the Michigan State Medical Society was held at University Hospital, Ann Arbor, Wednesday, March 27, 1935. The program was as follows:

### *A. M. Morning Medical Clinic*

- 9:30 Medical Clinic—Dr. C. C. Sturgis
- 10:15 Dermatological Clinic—Dr. Udo J. Wile
- 11:00 Psychiatric Clinic—Dr. John Dorsey
- 11:30 Surgical Clinic—Dr. F. A. Collier
- P. M.
- 12:30 Luncheon—University Hospital

### *Afternoon Conference*

- 1:30 Opening Statement—Dr. B. R. Corbus, Secy.
- 1:40 Election of Chairman
- 1:50 Introductory Remarks—Dr. Julius H. Powers, Council Chairman
- 2:00-2:15 The County Society—Dr. Richard R. Smith, President
- 2:15-2:40 Medical Relief in Michigan—Mr. Wm. J. Norton, Member State Emergency Welfare Relief Commission
- 3:00-3:20 Aims and program of the Economics Committee—Dr. C. T. Ekelund, Secy. to the Committee on Economics
- 3:40-4:00 Medical Education and Practice—Dr. James D. Bruce, Vice President University of Michigan
- 4:15 Current status of plans for Social Security—Dr. Morris Fishbein, Editor, Journal of the American Medical Ass'n
- 5:00-5:30 Round Table

## GENERAL PHYSIOLOGY OF ANTERIOR HYPOPHYSIS

Although the general physiology of the anterior hypophysis is inseparable from its special physiology, Philip E. Smith, New York, gives a general discussion of the recent developments of the knowledge of pituitary physiology. Experimental and other work is increasingly showing the important position which this organ occupies among the endocrine glands. There appear to be but few body functions that it does not influence, either directly or indirectly. Barger has spoken of it as "general headquarters" of the endocrine system, a characterization that aptly expresses its dominant position in this system. Undoubtedly, the large number of contributions that have been published on the anterior hypophysis within the last decade have not simplified but rather have made more complex knowledge of its physiology. The author discusses the pituitary hormones, anti-hormones and the species and sex variability.—(*Journal A. M. A.*, Feb. 16, 1935.)



## COUNTY SOCIETIES

### MUSKEGON COUNTY

Dr. John Parker Stoddard of Muskegon, Michigan, an alumnus of the University of Michigan, and Albion College, celebrated his one hundredth birthday, February 22, 1935.

Dr. Stoddard is the oldest living alumnus of the University of Michigan and probably the oldest living alumnus of any college.

A dinner, sponsored by the Muskegon County Medical Society, was attended by Dr. Stoddard and two hundred men and women prominent in the community and the state.

Representatives from the University of Michigan and Albion College were called upon for speeches. Dr. Stoddard's speech was the outstanding event on the program. Showing remarkable mental alertness, he spoke in a strong, clear voice so that everyone in the large audience was able to hear.

President Roosevelt sent birthday greetings to Dr. Stoddard, which read as follows:

Washington, D. C.  
February 15, 1935.

My dear Dr. Stoddard:

I have learned, with sincere interest, that you shortly will celebrate your one-hundredth birthday anniversary. It gives me real pleasure to join with your many friends in extending congratulations and best wishes.

Very sincerely yours,  
(Signed) FRANKLIN D. ROOSEVELT.

Dr. Harold Closz, president of the Muskegon County Medical Society, presided at the dinner meeting, and the committee on arrangements were Doctors Thornton, chairman; Douglas, Durham and Teifer.

CHARLES O. TEIFER, *Secretary*.

### NORTHERN MICHIGAN

The regular meeting of the Northern Michigan Medical Society was held at the Perry Hotel, Petoskey, March 14, 1935. The meeting was called to order by the president. The minutes of the last meeting were read and approved and correspondence was read.

Motion was made and supported that the standing orders of Metropolitan Life Insurance Company be approved. Motion defeated. Motion was made and supported that the secretary write to the Insurance Company nurse expressing our approval of her work and that we appreciate the benefits of her services, but do not approve of any standing orders or care to assume responsibilities of any orders other than those given by the family physician. Motion carried.

The president appointed Drs. Dean, McMillan and Frank as a committee to draw up by-laws. Report of the Fee Bill Committee was heard. Motion was made and supported that the fee bill be accepted. Carried.

The program was then turned over to the Program Committee and Dr. Conway introduced Dr. Evans, roentgenologist, from the Michigan State Hospital, Traverse City, who gave a very interesting talk on "X-rays of the Chest and Gastro-intestinal Tract." Dr. Evans then followed with a brief talk on the medical service in India.

Dr. Harrington was appointed to the program committee. Meeting adjourned.

E. J. BRENNER, *Secretary*.

### WAYNE COUNTY

The Wayne County Medical Society held a "Medical Economics Meeting" on March 25, 1935. Dr. Wm. J. Stapleton, Jr., spoke of the four classes to which medical service is available: (a) The well-to-do; (b) the welfare group; (c) the unemployed not on welfare rolls; (d) the employed of small means.

Dr. Stapleton showed that, through the Wayne County Medical Society, medical service is available to all these classes and to all persons who seek the services of a physician.

Dr. T. K. Gruber spoke of medical care available to the welfare group and outlined the Medical-Dental Bureau (FERA) located in the Wayne County Medical Society Building, showing that it Coördinated the services of physicians, dentists, nurses and pharmacists, to bring home and office medical care to unemployed who are welfare recipients. He recommended a state-wide program or model plan combining the best features of the many bureaus in the counties of Michigan and in other states.

Dr. E. D. Spalding outlined the accomplishments and success of the Medical Service Bureau of the Wayne County Medical Society, organized February 16, 1934, to make available complete medical care, including hospitalization, to the employed person of small means.

Dr. L. J. Hirschman gave detailed information on various sickness insurance schemes being proposed throughout the country, especially to the legislatures of the various states, and explained the American Medical Association stand.

Drs. H. A. Luce and H. Wellington Yates made a motion that the Wayne County Medical Society stand behind the American Medical Association in all its pronouncements made by the House of Delegates in special session in Chicago, February 16, 1935. This was unanimously approved.

The next Medical Economics meeting will be held on April 22, 1935. These meetings are limited to members only with admission by membership cards. Physicians from other counties will be welcomed, merely on presentation of membership card in their county medical society.

The Wayne County Medical Society's program for April 1: Dr. B. B. Crohm of New York on "Ulcerative Colitis;" April 8, Dr. Dean Cutter of Chicago on "Contemporary Medicine"—a joint meeting with the Woman's Auxiliary to the Wayne County Medical Society; April 15, Dr. Douglas Owen, president of the American Medical Association of Vienna, on "Vienna, the Mecca of Medicine in the Europe of Today;" April 22, Medical Economics Night; April 29, Entertainment Night. All members of the Michigan State Medical Society are cordially invited to attend meetings of the Wayne County Medical Society held every Monday in the Detroit Institute of Arts, Woodward between Putnam and Kirby, Detroit, 8:45 p. m.

Physicians and surgeons of Wayne County who render medical care to afflicted children and to afflicted adults under Public Act. No. 248 and Public Act No. 222 of 1933, are being compensated according to the law and the Attorney General's opinion. The arrangement between the Wayne County Medical Society and the County Auditors and the Probate Court became effective February 1, 1935.

The Interstate Post-graduate Medical Assembly of North America will hold its 1935 meeting in Detroit, in the Masonic Temple October 9 to 15. Dr. Wm. J. Cassidy is General Chairman of the local Detroit committees.

The Wayne County Medical Society booth at the Detroit and Michigan Exposition held in Convention Hall March 9 to 16, attracted some eight thousand people. A queue of over 100 people was present at all times from 1:00 p.m. to 11:00 p.m. No other exhibit attracted more attention. Its appeal proves that the public is tremendously interested in the work of medical organizations and is waiting to be informed of its progress and labors.

## WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, President, Kalamazoo.  
MRS. F. M. DOYLE, Secretary, Kalamazoo.

### ATTENTION, COUNTY PRESIDENTS!

Mrs. Guy L. Kiefer, 148 West Grand River Ave., East Lansing, Michigan, State Chairman of Organization, requests that you mail to her immediately your full membership list with addresses, which will be published in the next JOURNAL.

The board recommended that great stress be applied in organization. Vital social-economic problems are confronting the medical men of today as never before. We have only one way of assisting them and that is through *organization*. Let us weld ourselves into a more cohesive unit. Study these problems, work with them and stop the inroads and tendencies of these groups whose propaganda threatens our very livelihood. Don't delay! Get together *now* and *organize*!

### Executive Board Meets

On March 9, 1935, the executive board of the Woman's Auxiliary to the Michigan State Medical Society met in Parlor A of the Book-Cadillac Hotel, Detroit, with the following members in attendance.

Mrs. F. T. Andrews.....	President
Mrs. A. M. Giddings.....	President-elect
Mrs. F. M. Doyle.....	Secretary and Treasurer
Mrs. Elmer L. Whitney.....	Past President
Mrs. P. R. Urmston.....	Program Chairman
Mrs. Guy L. Kiefer.....	Organization Chairman
Mrs. E. S. Peterson.....	Legislative Chairman
Mrs. J. H. Dempster.....	Revision Chairman
Mrs. L. C. Harvie.....	Press Chairman

Dr. J. L. Hirschman, Chairman of the Advisory Council also attended.

This was a very enthusiastic meeting. Reports from the various officers and chairmen were given and recommendations made which will be given to the general assembly at the State meeting in September, at Sault Ste. Marie.

Each county is urged to assist the state board in making a good showing for Michigan in the exhibits to be presented at the national convention, in June, at Atlantic City.

A letter from Dr. Caroline Bartlett Crane was read in which she acknowledged with thanks her appointment as Honorary President to the State Auxiliary.

### Jackson County

Mrs. Theophile Schmidt was hostess, Tuesday evening, February 26, to thirty members of the Woman's Auxiliary of the Jackson County Medical Society. Dinner was served at 6:30 by a committee, with Mrs. C. E. DeMay as chairman, assisted by Mrs. M. N. Stewart, Mrs. E. S. Peterson, Mrs. Frank Gibson, Mrs. W. H. Enders and Mrs. Rex Bullen. A short business session was held and correspondence was read from Dr. Joseph Bloodgood, in which he stated that his trip to Jackson is indefinitely postponed. Bridge closed the evening with honors going to Mrs. Don Kudner and Mrs. M. N. Stewart.

### Kalamazoo County

Sixty-nine tables of cards were in play at the benefit party sponsored Friday afternoon, February 15, by the Woman's Auxiliary to the Academy of Medicine, to raise funds to buy a "radio ear" for the Hard of Hearing School. During the afternoon, members of the Child Conservation Circle conducted a food sale which netted \$16.70 and with proceeds from the games, \$126.54 was cleared. Mrs. Walter Lang, general chairman, and Mrs. Rush McNair, co-chairman, were assisted by a large committee of members. During the afternoon a style show was presented by the Fred Mahoney Shop for Women. Mrs. R. D. Huhn and daughters, Doris and Donna, furnished music for the afternoon.

\* \* \*

On February 19 about thirty members of the Kalamazoo Auxiliary enjoyed a supper meeting at the home of Mrs. Ralph G. Cook. During the evening, Mrs. Charles McConnell gave a talk on her work at the Hard of Hearing School and demonstrated her work with a deaf pupil. A report of the card party last week was given and proceeds will be used to purchase more radio ears for the school. It also was announced that the auxiliary has donated more than 100 articles to a needy mother with a newly-born child.

### Saginaw County

On Thursday evening, February 14, the Saginaw County Woman's Auxiliary entertained about sixty guests at a "Bring-Your-Husband Dinner," which was held in the Gold Room of the Bancroft Hotel, Saginaw.

Attractively arranged bowls of red carnations and narcissi, with red tapers in heart-shaped holders and trailing smilax formed the effective decorations for the dinner tables which were arranged in spoke-like fashion around a round center table. Dinner was served by candle light. Kaufmann's orchestra furnished music for dancing.

A terrific electrical storm struck Saginaw later in the evening, cutting off the city's electric power; however, the darkness added to the gaiety of the party for after a very short period of confusion, candle light was provided and the dancing continued. Decorations sometimes are considered unimportant, but this time they saved the party.

During the grand march, one of the doctors appeared, dressed as "St. Valentine" and distributed candy favors tied in bright red cellophane.

In charge of arrangements were Mrs. Robert Jaenichen, Mrs. Emil Richter and Mrs. William Pickett.

### Wayne County

On March 9, preceding the lecture by Dr. Fishbein, the Wayne County Auxiliary sponsored a subscription luncheon at the Book-Cadillac Hotel, with Mrs. Frank Hartman, president of the Wayne County group, acting as toastmistress. Mrs. Hartman, in her



ever-gracious manner, introduced Mrs. F. T. Andrews, of Kalamazoo, president of the Michigan State Medical Auxiliary, who, in turn, introduced her board members. Mrs. Hartman then presented Dr. William Cassidy, president of the Wayne County Medical Society; Dr. William Hoffman, Dr. A. M. Smith, the Wayne County Auxiliary board members and, lastly, Dr. Morris Fishbein, of Chicago, who gave a short résumé of the wave of social intrigue now confronting the medical profession.

The grand ballroom of the Book-Cadillac Hotel was the setting for the lecture, sponsored by the Wayne County Auxiliary and open to the public, at 2:00 p. m., on March 9. Mrs. Frank Hartman, president of the Wayne County organization, who presided, stated that the purpose of these meetings was to give authentic information on health problems to the lay groups.

Mrs. Hartman introduced Mrs. F. T. Andrews, president of the Auxiliary to the Michigan State Medical Society, who stated that she was very pleased that she and her board members had the opportunity of meeting with the Wayne County members and was to have the privilege of listening to Dr. Fishbein.

Mrs. Guy L. Kiefer, of Lansing, was then presented. She thanked the Wayne County Auxiliary for the honor which they had conferred upon her—Honorary President to the Wayne County Auxiliary.

Mrs. J. M. Robb, a member of the Public Relations Committee and chairman of the day, presented Dr. William Cassidy, who introduced Dr. Morris Fishbein as "one of Medicine's illustrious sons and editor of the *Journal of the American Medical Association*."

Dr. Fishbein's subject was "Food Fads."

"Eat all the foods you would naturally take, but less of them," is his counsel.

"Will power, not diet, is the chief factor in weight reduction."

Dr. Fishbein holds that superstitious ideas about nourishment have nothing to do with scientific facts promulgated by Mother Nature millions of years ago and still working with clocklike precision. If you are over-poundish, take some daily exercise in the way of making negative passes of the head when a second helping is offered you.

"Our jittery nerves are more related to the speed and intensity of modern life than to anything else," he said, "and, moreover, there is no such thing as a 'reducing' food. The elements in food are all of the 'building' variety."

America is a "slogan-mad" nation, in Dr. Fishbein's opinion.

"We get a tip from the radio on some new food fad and gallop off on another diet tangent, without giving our natural intelligence a chance to work for us. Let's give it a chance."

An open discussion followed the lecture.

### Wayne County

The Board of Directors of the Woman's Auxiliary to the Wayne County Medical Society held their March meeting at the Book-Cadillac Hotel preceding a luncheon in honor of Dr. Morris Fishbein, Editor of the *American Medical Association Journal*, who lectured in the afternoon on "Food Fads." A report of his lecture is given elsewhere in this issue.

Reports from the various committees of the Auxiliary indicate that the year's work is progressing nicely under the leadership of its president, Mrs. Frank W. Hartman, and the various committee chairmen.

Mrs. Claire L. Straith, chairman of the membership committee, reported several new members.

Mrs. Clifford B. Loranger and her committee had an interesting display of *Hygeia*.

Mrs. James H. Dempster, chairman of the Arts and Crafts Committee, most interestingly brought before the Board her plans for the splendid exhibit to be held under the sponsorship of the Auxiliary. Members of the Wayne County Medical Society and their families are being asked to place on exhibit at the club rooms of the society, on April 10, the products of any hobby that comes under the general category of Arts and Crafts—such as pottery, photography, sculpture, etchings and drawings, paintings in oils and water-colors. A room will be devoted to the drawings and paintings done by the children of doctors.

The exhibit will open on April 12, the date of the regular meeting of the Auxiliary. At this time, there will be a reception to new members, followed by a tea and social hour. Mrs. M. D. Vokes, of the Vokes Studio, will give a demonstration of the art of pottery making. Hostesses for the day are Mrs. William J. Stapleton, Jr., Mrs. Jean P. Pratt, Mrs. Howard P. Doub, Mrs. F. Janney Smith, Mrs. Douglas Donald and Mrs. Archibald G. McAlpine.

Saturday, April 13, will be Children's Day.

On Sunday, April 14, from three to five o'clock, the exhibit will be open to all doctors and their families. A program of especial interest has been arranged for this time. Music will be furnished by Dr. B. Hjalmar Larson and his trio. Mrs. H. Lee Simpson will talk on the Young Artists' Market, and Dr. Parker Heath will speak on the subject, "Art as a Hobby for the Medical Man." From two-thirty to five o'clock of each week-day afternoon, the exhibit will be open to the public, with the members of the Art Committee serving as hostesses.

On Monday, April 15, at three o'clock, Mrs. Jack Agins will give a talk on "Modern Art." Her address will be followed by a musical program.

Mr. Henry Morton, son of Dr. John B. Morton, will speak on the "Art of Interior Decorating," at three o'clock on Tuesday, April 16. At the same hour on Thursday, April 18, Mrs. George L. Waldbott will give an address on "Anatomical Art." Music will be provided by Mrs. Milton A. Darling. This exhibit promises to be one of the outstanding features of the year's activities.

The study classes, under the leadership of Mrs. J. Milton Robb and her vice chairman, Mrs. Arthur B. McGraw, which proved of such interest and benefit last year, are being continued this season. The meetings are held in the Alger Club Center, headquarters of the Visiting Nurse Association immediately behind the Medical Society Club rooms, on Monday evenings at eight-thirty, from March 11 to April 8, inclusive. The subjects and the lecturers are as follows:

March 11—Review of the Period from Imhotep to Harvey.—Dr. Lawrence Reynolds.

March 18—Rise of the Universities.—Dr. Frederick Collier.

March 25—Harvey and the 17th Century.—Dr. C. E. Dutchess.

April 1—Modern Medicine (18th and early 19th centuries)—Dr. W. S. Reveno.

April 8—Contemporary Medicine.—Dr. Irving S. Cutter.

The last lecture will be given in the auditorium of the Detroit Institute of Arts, and will be before a joint meeting of the Wayne County Medical Society and the Auxiliary.

Anyone interested in the History of Medicine, is cordially invited to attend any or all of the lectures.

There is no fee.

(MRS. FRED'K T.) FLOY T. MUNSON,  
Chairman Press Committee.

## MICHIGAN'S DEPARTMENT OF HEALTH

**C. C. SLEMONS, M.D., Dr.P.H., Commissioner**  
LANSING, MICHIGAN

### Our 1934 Death and Birth Rates

Michigan's 1934 death rate was 9.90, a slight increase over the record breaking rate of 9.62 reached in 1933. A total of 50,440 deaths were reported to the Michigan Department of Health in 1934, in contrast to the 48,507 of 1933. While the rate of one year is not in itself highly significant, health authorities believe that the 1934 figure is of particular interest as an indication of a probable upward trend.

The birth rate also rose somewhat, from 15.96 in 1933 to 16.48 in 1934. This, also, may indicate a trend, in this case a highly desirable one. Eighty-three thousand nine hundred and forty-four births were reported in 1934, as against 80,482 in 1933.

### Communicable Diseases

In accordance with the expectation of an outbreak, the incidence of measles throughout the state has been rapidly increasing. It is probable that the peak will be reached sometime in April.

A number of inquiries have been received from physicians as to the technic of administration and indications for the use of the whole blood method of prevention and modification of measles. The Michigan Department of Health is glad to furnish this information either direct to physicians or through the local health officers.

Although this is the season for the high incidence of scarlet fever and this disease has been constantly on the increase for a number of years, the incidence this year is lower than the expectancy.

Ever since September, at which time the seasonal curve starts upward, the incidence has been somewhat low, and at the present time is running about

35 per cent lower than for the same period in 1934. On the other hand, the slight upward trend in the case fatality rate which was noticed in 1933 continued through 1934 and apparently will persist in 1935. Whereas the trend toward an increase in the number of cases has been broken, the trend toward mildness of the disease has also been retarded for the case fatality rate moves in the opposite direction, a condition which we do not desire.

### Advisory Committee of Laboratory Directors

An Advisory Committee of Laboratory Directors has been appointed by the State Council of Health to consult with the State Commissioner of Health on the conduct and control of diagnostic laboratories making examinations for the control of communicable diseases.

The Committee is made up of the following members:

- J. F. Norton, Ph.D., Chairman  
The Upjohn Company, Kalamazoo
- R. L. Kahn, Sc.D.  
University of Michigan, Ann Arbor
- H. E. Cope, M.D.  
Owen Clinical Laboratories, Detroit
- J. A. Kasper, M.D.  
Herman Kiefer Hospital, Detroit
- W. M. German, M.D.  
Blodgett Memorial Hospital, Grand Rapids
- M. H. Soule, Ph.D.  
University of Michigan, Ann Arbor
- S. E. Gould, M.D.  
Eloise Hospital, Eloise
- O. W. Lohr, M.D.  
Central Laboratory, Saginaw

### New District Health Department

Arenac, Gladwin and Clare counties have united to form District Health Department Number 7. Headquarters of the new department are at Gladwin, and the personnel consists of Dr. E. V. Thiehoff, Director, C. I. Webb, Sanitary Officer, and Ruth Scott, R.N. (Arenac County), Mrs. Pearl

Unit	Head-quarters	Area Sq. Mi.	Pop.	Date Estab.	Director	Source of Funds
Allegan Co.	Allegan	833	38,974	4-1-32	Dr. F. S. Leeder	State, Kellogg Found.
Barry Co.	Hastings	556	20,928	6-1-31	Dr. M. R. Kinde	State, USPHS, Kellogg Found.
Eaton Co.	Charlotte	571	31,728	3-1-33	Dr. J. W. Davis	State, Kellogg Found.
Genesee Co.	Flint	655	55,149	6-1-29	Dr. Leslie A. Lambert	County, State, USPHS.
Hillsdale Co.	Hillsdale	597	27,417	9-1-34	Dr. E. G. McGavran	State, Kellogg Found.
Isabella Co.	Mt. Pleasant	572	21,126	1-1-31	Dr. T. E. Gibson	County, City, State, USPHS, Child. Fd.
Kent Co.	Grand Rapids	860	71,919	1-1-31	Dr. J. D. Brook	County, State, USPHS.
Midland Co.	Midland	529	19,150	1-1-30	Dr. David Littlejohn	County, State, USPHS.
Oakland Co.	Pontiac	886	146,323	12-1-26	Dr. J. D. Monroe	County, State, USPHS.
Ottawa Co.	Grand Haven	565	54,858	1-1-31	Dr. Morton L. Levin	County, State, USPHS.
Saginaw Co.	Saginaw	828	40,002	1-1-28	Dr. Wm. H. Pickett	County, State, USPHS.
Van Buren Co.	Paw Paw	617	32,637	7-1-34	Dr. Theodore R. Meyer	State, Kellogg Found.
Wexford Co.	Cadillac	577	16,827	11-15-28	Dr. S. C. Moore	County, City, State, USPHS.
Dist. No. 1	Grayling	2268	15,943	11-1-29	Dr. T. R. Laughbaum	County, State, Child. Fd.
Kalkaska-Crawford-Missaukee-Roscommon						
Dist. No. 2	West Branch	2410	20,829	11-1-29	Dr. Gladys Kleinschmidt	County, State, Child. Fd.
Oscoda-Alcona-Iosco-Ogemaw						
Dist. No. 3	Charlevoix	1899	42,623	10-15-30	Dr. Carleton Dean	County, State, USPHS, Child. Fd.
Antrim-Charlevoix-Emmet-Otsego						
Dist. No. 4	Rogers City	2548	44,220	10-15-30	Dr. G. B. Moffat	County, State, Child. Fd.
Alpena-Cheboygan-Montmorency-Presque Isle						
Dist. No. 5	White Cloud	1973	34,900	2-1-32	Dr. Guy R. Post	County, State, USPHS, Child. Fd.
Lake-Newaygo-Oceana						
Dist. No. 6	Newberry	3171	23,762	2-1-35	Dr. Clarence Hart	County, State, USPHS, Child. Fd.
Luce-Mackinac-Schoolcraft						
Dist. No. 7	Gladwin	1475	22,463	3-1-35	Dr. E. V. Thiehoff	County, State, USPHS, Child. Fd.
Clare-Gladwin-Arenac						

Population of state, 4,842,325 (1930 Census).

Population of state, excluding Detroit, 3,273,663 (1930 Census).

Area of state 57,480 square miles.

23.9% of population, excluding Detroit (781,778), served by county or district units.

42.4% of area (24,390 square miles) served by county or district units.



Maier, R.N. (Gladwin County) and Olive Conely, R.N. (Clare County).

Establishment of District Health Department Number 7 was made possible by the recent federal grant for the extension of rural health service and a special grant from the Children's Fund of Michigan. This combined sum was increased by the regular state allotment and the usual contribution from the counties served.

Thirty-eight Michigan counties now have full-time health service, administered through twenty county or district health departments. These departments serve 42.4 per cent of the area of the state and 23.9 per cent of the population (excluding Detroit). The list of counties included is shown in the accompanying table.

## COMMUNICATIONS

### THE FIRST TOTAL THYROIDECTOMY

To the Editor Journal Michigan State Medical Society

I was asked to discuss the paper of Dr. Elliott Cutler on "Thyroid Surgery for Heart Disease" before the Medical Section at the State Meeting in Battle Creek last Fall. In that discussion I pointed out that the first total thyroidectomy reported in the literature was reported from Michigan by Doctor Theodore A. McGraw in 1882. He reported two cases, both of whom had had total thyroidectomy for goiter. Of course, at that time the knowledge of thyroid function was very small. Apparently Dr. McGraw had at least temporary paralysis of vocal cords and myxedema following his operations, and his operations were not done for heart disease.

The way in which I came to know of this early report of Dr. McGraw's might be of interest to you. Shortly after I came to Detroit (19 years ago) Dr. William S. Halsted, who was working on his monograph on "The Operative Story of Goiter" wrote to me to see if I could help him in obtaining this indexed paper of Dr. McGraw's. Dr. Halsted had been unable to obtain it from the Surgeon General's Library, the larger libraries in the country, nor from the Detroit Library. I called on Dr. Theodore McGraw, who was alive at that time, and he remembered the paper and promised to send me a reprint which he felt sure was in his attic. I never received it—so this report was not included in Dr. Halsted's monograph.

A few years ago I talked to Dr. Fred Collier concerning our inability to locate this publication. It was not in the library at Ann Arbor. Strangely enough Dr. Collier was able to locate it in the library in Detroit. I believe it was presented to this library with some of Dr. J. H. Carstens' library after his death, for the volume has Dr. J. H. Carstens' name stamped on the back.

The name of the volume is—Detroit Clinic. It was a weekly journal which was published during the entire year of 1882, the Managing Editor being Dr. H. O. Walker. It ran only for one year and then was continued under the name of The Medical Age with Managing Editor, John J. Mulheron, Associate Editors, H. F. Lyster, Theodore A. McGraw, Daniel LaFerte and H. O. Walker.

This paper by Dr. Theodore A. McGraw, "Operations on the Thyroid Gland," has been republished in Johns Hopkins Bulletin, V. 45: p. 172-175, 1929.

In view of the recent and growing interest in total thyroidectomy for heart disease, I think it would be of interest if you would publish a note, or per-

haps this letter if you care to, in order that we might claim for Michigan the honor of the first total thyroidectomies reported.

ROY D. McCLURE.

Henry Ford Hospital  
Detroit, February 27, 1935.

My dear Dr. Corbus:

I wish to thank you for the copy of publication of the Michigan State Medical Society on Postgraduate Medical Education. I feel that you have done a real service in bringing this material together.

In such a compilation it is, of course, difficult to avoid errors. I notice that it is stated that Washington University has no organized graduate activity. This is very far from the case. Postgraduate instruction for practitioners has been an important activity of the school since 1920.

Since 1920 organized postgraduate courses in pediatrics have been given twice annually except during 1933-34, when the course was given once annually. Announcement of this course in enclosed herewith. This has been one of the best known pediatric courses in the country, the number of students attending having been 35 at a single session. All together 596 men have attended these courses from 42 states and 13 foreign countries. States sending the largest number have been: Texas, 73; Missouri, 56; Illinois, 32 and North Carolina, 31. There have been 20 men from the state of Michigan.

Other courses which are offered are Obstetrics and Gynecology, Internal Medicine, Surgery, Otolaryngology and Ophthalmology. For all courses combined, something over 1,000 men have attended, including a total of 37 from the state of Michigan. The above courses are short courses.

In addition, the departments of Ophthalmology and Otolaryngology offer courses of two years' duration for the training of specialists.

I am enclosing some announcements of courses offered here. I should be very glad to provide you with full and detailed information concerning any of them.

I feel that it is unfortunate that a school which has been so active in postgraduate education should be dismissed with the comment that no organized instruction is given.

Yours very truly,

W. McKIM MARRIOTT, M.D., *Dean*,  
Washington University School of Medicine.

## OBITUARY

### Dr. Edward H. Hayward

Dr. Edward H. Hayward of Detroit died February 24. He was born in England sixty-one years ago. Dr. Hayward had been a physician in Detroit for thirty years. For several years he was associated with the Detroit Board of Health and had been a lecturer at the Detroit College of Medicine. He was a member of the Wayne County Medical Society and the Michigan State Medical Society. He is survived by his wife, Caroline; a brother, Cecil, in England, and two sisters, Cynthia and Blanche, in Italy.

## GENERAL NEWS AND ANNOUNCEMENTS

Dr. Walter J. Cree of Detroit has recovered from pneumonia.

\* \* \*

Dr. Thomas D. Gordon of Grand Rapids has returned from California somewhat improved in health, but still confined to the house.

\* \* \*

Dr. Frederick C. Kidner of Detroit addressed the Genessee County Medical Society on the subject "The Anatomy of the Lower Spine in Relation to Pain."

\* \* \*

Among the lucky ones basking in Florida sun are President Richard R. Smith, L. J. Schermerhorn, H. J. Beel of Grand Rapids, L. G. Christian of Lansing, C. S. Gorsline of Battle Creek.

\* \* \*

Dr. George L. McBride of Grand Rapids is in Butterworth Hospital following a cerebral hemorrhage, resulting in a left hemiplegia. He is slowly recovering the use of his limbs.

\* \* \*

Mr. William Burns, executive secretary of the Wayne County Medical Society, was a speaker at the Northwestern Medical Conference, Saint Paul, February 24. His subject was, "Medical Activities in Michigan."

\* \* \*

Miss Marjorie Darrack, librarian of the Medical Science Department of the Detroit Public Library, leaves for Madrid, Spain, early in May to attend the National Federation of Libraries. Mr. W. W. Bishop, librarian, of the University of Michigan Library, is president of the Association.

\* \* \*

At a meeting held in Detroit on March 7, a number of psychiatrists, other doctors, social workers, members of the Bar and Bench, met to discuss the advisability of a hygiene society for the state of Michigan. The meeting was addressed by Dr. George S. Stevenson of New York, representing the National Committee for Hygiene who urged a closer coöperation between social and psychiatric agencies already in existence in the state.

\* \* \*

Dr. John Parker Stoddard of Muskegon, Michigan, celebrated his one hundredth birthday anniversary on February the twenty-second. Dr. Stoddard is the oldest living graduate of the University of Michigan. He is also believed to be the oldest living graduate of any college in the United States. He rode to the hotel in an automobile where he was tendered a complimentary dinner. Among the letters of congratulations were one from President Franklin D. Roosevelt; one from President Alexander G. Ruthven of the University of Michigan and one from the secretary of Albion College of which institution Dr. Stoddard is also a graduate.

\* \* \*

"Medical Manual," is the title of a mimeographed volume published by the Oakland County Emergency Welfare Relief Administration. The volume contains a detailed account of the policies and procedures with samples of the various cards and forms used in connection with medical relief work in Oakland County. In the preface Dr. R. G. Tuck, Medical Director, writes the following significant paragraph: "Based upon the close coöperation of

the County Medical Society and County Dental Society, we have worked out a plan which we feel gives the welfare client adequate necessary medical and dental care. The reason why we feel that this plan is successful thus far, is the utter lack or absence of complaints from the welfare clients and the universal approval of physicians and dentists."

\* \* \*

The annual meeting of the American Association on Mental Deficiency will be held at the Hotel Palmer, Chicago, on April 25, 26 and 27, 1935. The Thursday and Friday sessions will be devoted to studies on Mongolism; Birth Injury as an Etiological Factor in Mental Deficiency; Mental Disorders in Mental Deficiency; The Problem of Sterilization; Defective Delinquency and Its Relation to Penal Institutions; Community Supervision of the Paroled Mental Defective; and Newer Methods in Institutional Training for Community Life. The Saturday session, on April 27, will be devoted to the sociological, psychological, and the special educational aspects of Mental Deficiency. Physicians are cordially invited to attend these sessions. Complete data on the program may be obtained from the Secretary, Dr. Groves B. Smith, Godfrey, Illinois.

\* \* \*

Dr. Franklin H. Martin, founder of the American College of Surgeons, died at Phoenix, Arizona, on March 7, of a heart attack. Dr. Martin was born at Ixonia, Wisconsin, on July 13, 1857. He was married in 1886 to Miss Isabelle Hollister, daughter of Dr. John H. Hollister, a pioneer Chicago physician. Dr. Martin was a graduate of the old Chicago Medical College which education he supplemented by studying at the University of Pittsburgh, the Detroit College of Medicine and Surgery and Northwestern University. He was professor in the Polyclinic in Chicago from 1886 to 1888. With Dr. W. F. Coleman he later organized the Post Graduate Medical School of Chicago. He was founder and Editor of *Surgery, Gynecology and Obstetrics*. Dr. Martin was president of the American College of Surgeons in 1928 to 1929 and was an associate editor of the *American Journal of Obstetrics and Gynecology*. He held the rank of colonel in the United States Army Corps in 1917 to 1918.

\* \* \*

### Postgraduate Course of Medical and Dental Reserve Officers

The Department of Postgraduate Medicine, the Medical School and the University Hospital at the University will collaborate with the War Department, in a medico-military course for medical and dental reserve officers, April 14 to 20, inclusive. The morning hours will be spent in clinical discussions, ward walks, and observation of operations in the departments of general surgery, internal medicine, and oral surgery only. The afternoons and some of the evenings will be occupied by lectures and problems on military and allied subject material of particular interest to the officer of the Medical Department.

The invitation has been extended by the University to the Commanding General of the Sixth Corps Area, comprising the States of Illinois, Wisconsin and Michigan. It has also been extended to the Commanding General of the Fifth Corps for Medical Department officers residing in Northern Indiana and Ohio and to the Commander of the Ninth Naval District for Naval Reserve medical officers residing in this area.

Officers who desire to take this course should present their application to the Commanding General, Sixth Corps Area, Postoffice Building, Chicago, Illinois.



### Industrial Physicians and Surgeons Meet

Michigan Association of Industrial Physicians and Surgeons will hold their annual meeting at the Hurley Hospital, Flint, on April 26, 1935, beginning at 8:45 a. m. The program will consist of a fracture symposium as follows:

1. "Cerebral Traumatism," Dr. Max Peet, Professor of Neuro-surgery, University of Michigan Medical School.
2. "Fractures of the Spine," Dr. Carl Badgley, Professor of Orthopedic Surgery, University of Michigan Medical School.
3. "Fractures of the Pelvis," Dr. Don R. Brasie, Assistant Director, Department of Traumatic Surgery, Hurley Hospital.
4. "Pitfalls in the Management of Fractures of the Lower Extremities," Dr. F. C. Kidner, Professor of Orthopedic Surgery, Wayne University Medical School. Director of Orthopedic Surgery, Harper Hospital.

Luncheon will be served at noon in Hurley Hospital Dining Room.

At 2:30 p. m. business meeting will be held at the Durant Hotel.

At 3:00 p. m. an address on "The Medical Witness," will be given by Col. J. G. Stevenson, Chief Council for General Motors Corp., Detroit.

### Immunize Now—Stamp Out Diphtheria

May Day—Child Health Day has become an established institution throughout the United States. It was inaugurated in 1924 by the American Child Health Association for the purpose of calling the attention of parents, communities, and the public in general to the need for measures to protect the health of children.

In 1928 the United States Congress passed a joint resolution designating May first as Child Health Day, and authorizing the President to issue a proclamation requesting national observance of the day. In 1929 the Conference of State and Provincial Health Authorities of North America appointed a May Day Committee. In 1932 this committee took over the American Child Health Association, with the continuing assistance of that Association, the responsibility for the annual observance of Child Health Day. In the states the work is under the direction of State Departments of Health.

Child Health Day celebrations are intended only to mark and emphasize either the inauguration or the culmination of year-round work for improvement of the health of children. The project for 1935 is diphtheria immunization. This was chosen because there has been but little reduction since 1930 in the number of deaths from diphtheria throughout the country. While particular emphasis will be laid on immunization this year, it is not intended that the project be limited to 1935. On the contrary one of the chief objectives is to have the work continued year after year by the medical profession.

*Immunize Now—Stamp out Diphtheria*, is the slogan.

The measures proposed are:

To immunize all children between the ages of six months and six years.

To make early immunization a routine practice by all physicians.

The majority of pediatricians do immunize the babies under their care during the first year of life. Physicians in general practice also should follow this procedure.

State Departments of Health and the unofficial organizations interested in children are calling the attention of parents and communities to the need for early diphtheria immunization. Each individual physician should be prepared to take care of the applications for immunization. Coöperative plans for this work should be made by the local medical societies and departments of health in all communities. When a local medical society has perfected plans for this phase of preventive medicine, there is no reason why it would not be possible to assume gradually other types until eventually preventive medicine forms an important part of the practice of all physicians.

This project offers opportunity for many medical societies and many physicians to assume their rightful leadership in the preventive medical work of their communities.

Descriptions of the plans of certain medical societies for community child health work will be found in

The Experiments of the Medical Society of New Jersey in Furnishing Community Health Service. Section on "The Public Health Hour," p. 162.

LeRoy A. Wilkes, M.D., Executive Secretary, Medical Society of New Jersey. American Medical Association Bulletin, December, 1934.

The Children's Hour. Nassau Medical News, December, 1934.

Reprinted in Westchester's Health, February 11, 1935. Published by the Westchester County Department of Health, White Plains, New York.

What the Detroit Plan Offers.

Henry F. Vaughan, Dr. P.H., Health Commissioner, Detroit. Reprinted from the December, 1933, issue of Medical Economics.

### The Tri-State Medical Society

The Northern Tri-State Medical Society will hold its annual meeting at Lima, Ohio, April 9, 1935. The program is as follows:

#### Morning Session

- 8:00-8:45 A.M. "Studies on the Circulation in Cases of Hypertension"—John Walker Moore, M.D., Dean of University of Louisville, Louisville, Kentucky.
- 8:45-9:30 A.M. "Lessons derived from a Five-Year Morality Study"—Willard Bartlett, Sr., M.D., Assistant Professor Clinical Surgery, Washington University, St. Louis, Missouri.
- 9:30-10:15 A.M. "The Classification and Diagnosis of Dwarfism" and "Therapeutic Result with the Pituitary Growth Hormone"—R. L. Schaefer, M.D., Internist, Detroit, Michigan.
- 10:15-11:00 A.M. "The Roentgenological Aspect of Kidney and Urter Tumors"—B. H. Nichols, M.D., Director of Roentgenology, Criles Clinic, Cleveland, Ohio.
- 11:00-11:45 A.M. "The Diagnosis of Cerebral Lesions" or the "Diagnosis of Brain Tumors"—R. W. Waggoner, M.D., Associate Professor of Neurology, University of Michigan, Ann Arbor, Michigan.

#### Afternoon Session

- 1:00-1:45 P.M. "The Porro Operation in Obstetrics"—Irving W. Potter, M.D., Obstetrician, Buffalo, N. J.
- 1:45-2:30 P.M. "The Heart after Forty"—R. Wesley Scott, M.D., Prof. of Clinical Medicine, Western Reserve Medical School, Cleveland, Ohio.
- 2:30-3:15 P.M. "Diagnosis and Treatment in the Nephritides"—Martin H. Fisher, M.D., Professor of Physiology, University of Cincinnati, Cincinnati, Ohio.
- 3:15-3:30 P.M. Business Session.
- 3:30-4:15 P.M. "Errors in Diagnosis and Therapy in Pediatrics"—Alan Brown, M.D., Professor of Pediatrics, University of Toronto, Toronto, Ontario, Canada.

- 4:15-5:00 P. M. "Chronic Arthritis"—Ralph A. Kinsella, M.D., Professor of Internal Medicine, School of Medicine, St. Louis, Mo.  
 6:00 P. M. Banquet—Barr Hotel.  
 7:00 P. M. "The Present Position of Radiation in the Treatment of Cancer"—Max Cutler, M.D., Michael Reese Hospital, Chicago, Ill.  
 8:00 P. M. "Recent Advances in Gynecological Endocrinology"—Emil Novak, M.D., Associate Professor of Obstetrics, University of Maryland, Baltimore, Maryland.

### Michigan Radiologists

The number of the *Journal of the American Medical Association* of February the twenty-third was devoted to radiology, which includes x-ray diagnosis and treatment by means of x-rays and radium. Herewith is printed the list as given in the *Journal of the American Medical Association* for the state of Michigan. It will be noted that some confine their attention to the diagnostic phases of the subject, some to treatment and others include both.

**Adrian**—Chase, A. W., 130 Toledo St., Diagnostic roentgenology.

**Ann Arbor**—Donaldson, Samuel W., 326 N. Ingalls St., Roentgenology; Hodges, Fred J., University of Michigan, Roentgenology; Jacox, Harold W., 1116 Lincoln Ave., Radiology; Peirce, Carleton B., 1313 E. Ann St., Radiology.

**Battle Creek**—Gorsline, C. S., 25 W. Michigan Ave., Roentgenology; Kolvoord, Theodore, 25 W. Michigan Ave., Roentgenology; Upson, W. O., North Ave. and Emmett St., Roentgenology.

**Bay City**—Ziliak, Alois L., 200 Tuscola Rd., Roentgenology.

**Detroit**—Berris, J. M., 10 Peterboro St., Diagnostic Roentgenology; Birkelo, Carl C., 28 W. Adams Ave., Roentgenology; Bloom, Arthur R., 5057 Woodward Ave., Roentgenology; Chene, George C., 1551 Woodward Ave., Roentgenology; Dempster, Jas. H., 5761 Stanton Ave., Diagnostic Roentgenology; Dickson, B. R., 337 W. Grand Blvd., Roentgen therapy, radium therapy; Doub, Howard P., 2799 W. Grand Blvd., Radiology; Eakins, F. J., 1551 Woodward Ave., Roentgenology; Eisen, Paul, 258 S. Algonquin St., Roentgen therapy, Radium therapy; Evans, Wm. A., 10 Peterboro St., Radiology; Ford, Frances A., 432 Hancock Ave., Radium therapy; Grace, Joseph M., 14729 St. Mary's St., Radiology; Hall, E. Walter, 10 Peterboro St., Radiology; Hasley, Clyde K., 1551 Woodward Ave., Radiology; Jarre, Hans A., 1551 Woodward Ave., Radiology; Kenning, J. C., 1551 Woodward Ave., Roentgenology; Leucutia, Traian, 10 Peterboro St., Radiology; Minor, Edward G., 3001 W. Grand Blvd., Roentgenology; Reynolds, Lawrence, 10 Peterboro St., Radiology; Sanderson, S. E., 5057 Woodward Ave., Radiology; Shore, O. J., 3001 W. Grand Blvd., Roentgenology; Stevens, Rollin H., 1551 Woodward Ave., Radiology; Ulbrich, Henry L., 1122 E. Grand Blvd., Roentgenology; Weaver, Clarence E., 113 Martin Pl., Roentgenology; Wilcox, Leslie F., 10 Peterboro St., Radiology; Witwer, E. R., 3839 Brush St., Radiology.

**Flint**—Clift, Myron W., 901 Begole St., Radiology; Macduff, R. Bruce, 112 W. Kearsley St., Roentgenology.

**Grand Rapids**—Menees, Thomas O., Wealthy St. and Plymouth Rd., Radiology; Moore, Vernor M., 110 E. Fulton St., Radiology; Muller, John H., 26 Sheldon Ave., Radiology; Smith, Richard L., Butterworth Hospital, Diagnostic roentgenology; Stonehouse, Garnet G., 26 Sheldon Ave. S. E., Radiology; Williams, Alden H., 26 Sheldon Ave., Radiology.

**Jackson**—Cooley, R. M., 524 Lansing Ave., Roentgenology; Kugler, J. C., 1905 Grovedale Ave., Roentgenology; Porter, H. W., 1020 E. Michigan Ave., Radiology.

**Kalamazoo**—Crane, A. W., 420 S. Rose St., Roentgenology; Jackson, John B., 420 S. Rose St., Roentgenology.

**Lansing**—Davenport, Carroll S., 1210 W. Saginaw St., Roentgenology; Huntley, Fred M., 908 N. Capitol Ave., Roentgenology.

**Monroe**—Moll, T. M., 120 Maple Blvd., Diagnostic roentgenology.

**Muskegon**—Holly, Leland E., 876 N. 2nd St., Radiology. **Plainwell**—Hudnutt, O. D., 124 E. Bridge St., Roentgenology.

**Pontiac**—Church, J. E., 35 W. Huron St., Roentgenology; Pool, H. H., 35 W. Huron St., Roentgenology.

**Saginaw**—Anderson, Wm. K., 316 S. Porter St., Diagnostic roentgenology.

**St. Johns**—Ho, T. Y., Clinton Memorial Hospital, Diagnostic roentgenology.

**St. Joseph**—Lanman, Everett L., 1821 Niles Ave., Roentgenology.

**Traverse City**—Minor, E. B., 208½ E. Front St., Diagnostic roentgenology.

**Ypsilanti**—Pillsbury, Chas. B., 23B N. Washington St., Diagnostic roentgenology.

## THE DOCTOR'S LIBRARY

ONE HUNDRED AND FIFTY YEARS OF PUBLISHING 1785-1935. Philadelphia: Lea and Febiger, 1935.

This small work of forty-two pages gives an interesting account of the history of this well known and justly famous publishing house which has produced medical books of great merit for a century and a half.

**NOTES ON DR. CAMP'S LECTURES IN NEUROLOGY.** Arranged by Dr. L. Himler, Department of Neurology, University of Michigan Hospital. Ann Arbor: Edwards Brothers, Inc., 1935. Price \$3.00.

Primarily for medical students these notes will of necessity have a wider appeal, particularly to Dr. Camp's erstwhile students and to others in general practice. They are presented in convenient form and will be found a valuable adjunct to general medicine.

**PERIODIC FERTILITY AND STERILITY IN WOMAN.** A Natural Method of Birth Control. By Professor Herman Knaus, Head of the Clinic for Gynecology and Obstetrics of the German University of Prague, with a foreword by F. H. A. Marshall, F.R.S., authorized English translation by D. H. Kitchin. Sixty-four illustrations and twelve tables. Vienna: Wilhelm Maudrich, Publisher. American publisher, The Concip Company, Hobart, Indiana.

The work is the result of the author's studies on the physiology and pharmacology of the uterine muscle as well as of the corpus luteum as a gland of internal secretion. The scope of the book is pretty well indicated by the title.

**DISEASES OF THE MOUTH AND THEIR TREATMENT.** A Text-Book for Practitioners and Students of Medicine and Dentistry. By Hermann Prinz, A.M., D.D.S., M.D., D.Sc., Dr. Med., Dent., Professor of Materia Medica and Therapeutics, The Thomas W. Evans Museum and Dental Institute, School of Dentistry, University of Pennsylvania, Philadelphia, and Sigmund S. Greenbaum, B.S., M.D., Associate Professor of Dermatology and Syphilology in the Graduate School of Medicine of the University of Pennsylvania; Attending Dermatologist, Mt. Sinai and Philadelphia General Hospitals. Octavo, 616 pages, illustrated with 287 engravings and 11 colored plates, published 1935. Cloth, \$9.00.

In the preparation of this work the authors have had in mind the two professions, medicine and dentistry. Here is a phase of medicine in which both are equally interested. The work is exceedingly well illustrated and complete in its text as well. It will be found an invaluable aid in all pathological conditions effecting the mouth.

**THE PRACTICE OF REFRACTION.** By Sir Stewart Duke-Elder, M.A., S.Sc., Ph.D., M.D. Ophthalmic Surgeon and Lectures in Ophthalmology, St. George's Hospital, London. Second edition with 180 illustrations. Philadelphia: P. Blakiston's Son and Company, Inc. Price \$4.00.

A splendid text dealing with all phases of the subject of eye examination and the correction of the errors of refraction. There are chapters on Eye Strain, The Principles of Refraction, The Various Anomalies, Accommodation and Convergence, Muscle Balance, Clinical Methods and Spectacles. It is the most complete work we have yet seen on the subject.



**HUGHES PRACTICE OF MEDICINE.** Edited and revised by Burgess Gordon, M.D., Associate Professor of Medicine, Jefferson Medical College, with sections on Nervous and Mental diseases by Harold D. Palmer, M.D., Neurologist Out-patient Department, Pennsylvania Hospital, on Diseases of the Skin by Vaughn C. Garner, M.D., Assistant professor of Dermatology and Syphilology, University of Pennsylvania. Fifteenth edition with sixty-one illustrations. Philadelphia: P. Blakiston's Son and Co., Inc. Price \$5.00.

When a medical work has gone through fifteen editions, it has become pretty well known to the medical profession and very little need be said by way of introduction. In this complete revision those entrusted with the revision have made it full and complete and have incorporated a large number of new subjects. The object, namely the presentation of the established facts of medicine, has been observed throughout. The result is a convenient volume of over eight hundred pages.

**STAMMERING AND ALLIED DISORDERS.** By C. S. Bluemel, M.A., M.D., F.A.C.P., M.R.C.S. (Eng.) New York: The MacMillan Company, 1935. Price \$2.00.

This book presents the author's investigation of stammering from the point of view of psychology and neurophysiology. The basis of study being the "conditioned reflex and inhibition." Numerous case histories are presented. The subject is treated in such a manner as to be easily comprehended both by physicians and by teachers.

**DIABETES MELLITUS AND OBESITY.** By Garfield G. Duncan, M.D., C.M. (McG.) Associate in Medicine in the Jefferson Medical College, Philadelphia; Assistant Physician to the Pennsylvania Hospital; Chief of the Metabolic Clinic of "B Service" Pennsylvania Hospital, with an introduction by Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College. Illustrated. 215 pages. Philadelphia: Lea and Febiger, 1935.

The time was when the subject of Diabetes was dealt with very satisfactorily in a chapter in a medical text book. Now it has assumed such importance as to require a monograph. In fact, many good monographs have appeared. Perhaps there is no other disease the management of which requires more careful study. "The discovery of insulin," writes Dr. Thomas McCrae in the introduction, "altered over-night the outlook for the diabetic but added enormously to the difficulty of management." It is of paramount importance that those undertaking the management of diabetics realize this. This monograph will be found an invaluable aid, covering as it does the entire subject of management.

**ELEMENTARY HUMAN ANATOMY,** based on laboratory studies. By Katharine Sibley, Professor of Physical Education, School of Education, Syracuse University, Syracuse, N. Y. 360 pp. 213 figs. New York: A. S. Barnes & Co., 1935.

This work is a simplified anatomical text designed primarily for students of physical education. The text is straightforward in its organization. By means of an outlined type of presentation, definitions and directions for study, the anatomy has been adapted to the needs of the beginning student who may not have the advantages of actual dissection. The illustrations, which are culled chiefly from larger and usually foreign textbooks are particularly well selected.

Bones, ligaments and muscles are quite well handled, the functional aspect being emphasized. Un-

fortunately, other systems are treated in the sketchiest fashion, so that the book will be of secondary value as a general text. The work, however, is quite adequate for those whose primary interest is in physical education.

**PHYSIOLOGY IN MODERN MEDICINE.** By J. J. R. Macleod, M.B., L.L.D., F.R.C.P., F.R.S., Regius Professor of Physiology in the University of Aberdeen, Scotland. Seventh edition. St. Louis: The C. V. Mosby Company, 1935.

Macleod's "Physiology in Modern Medicine" is aptly titled for it proves to be a veritable guide to the clinical application of physiology and biochemistry. Recent Boards of Licensure have insisted upon a thorough training in the "basic sciences" and the study and use of this volume should afford the undergraduate the necessary foundation in physiology and its auxiliary science, biochemistry. To the practitioner the volume represents the present-day knowledge of human physiology and should serve as an excellent reference and review for those desiring to seek the physiologic interpretation of diseased conditions.

In this seventh edition there has been much revision, and special sections are found dealing with neuromuscular and central nervous systems, written by Philip Bard. E. P. Carter has revised the section on circulation.

An excellent feature consists in the listing of monographs and original papers, with titles given in full, all serving as useful bibliography.

J. S. B.

The Daily Log is a business record book for physicians. There is ample space for the daily recording of office consultation and visits of the busiest practitioner. It is in size eight and one-half inches by ten inches by one inch thick. The adoption of such a record will show the physician at any time the exact condition of his economic status. It is published by The Colwell Publishing Company, Champaign, Illinois, Price \$6.00.

W. B. Saunders Company, Philadelphia, announce a radical change in policy with the publication of the current number of the *Medical Clinics of North America*. Hereafter the *Medical Clinics of North America* will feature the everyday "run-of-practice" problems of the general practitioner. Emphasis will be placed upon diagnosis and treatment. The symposium idea will be further developed so that, in so far as possible, each number will contain a group of clinics dealing with the various clinical phases of some important diagnostic or therapeutic problem. Among the symposiums to be published during 1935 will be "The Treatment of Heart Disease," "Allergic Diseases," "The Treatment of Pneumonia," "The Medical Management of Biliary Disease." These new Medical Clinics will present in detail certain definite clinical aspects of a condition, rather than general discussions. In other words, the Clinics will give the reader the clinical meat of a problem such as he would expect to obtain while in actual attendance at a postgraduate clinic.

## OF GENERAL MEDICAL AND SURGICAL INTEREST

### JAUNDICE: REVIEW OF SOME EXPERIMENTAL INVESTIGATIONS

Frank C. Mann and Jesse L. Bollman, Rochester, Minn., state that jaundice appears to be one of the first clinical signs to be mentioned in the history of medicine as characteristic of disease. It may be produced in animals by many different methods, all of which have one common feature; that is, production within the animal of more bile pigment than is eliminated by the liver at the same time. Regardless of the method employed to produce the jaundice, the results noted may be due to three factors always present in the icteric animal; the effect on the body cells of retention of bile in the blood and tissue fluids; the effect of absence of, or alteration of, the bile in the intestinal tract, and the effect of the injury to the liver which accompanies jaundice. As yet, the effects of these three factors cannot be differentiated. Some of the nutritional disturbances found in jaundiced animals are associated with loss of normal bile from the intestine, but other disturbances, such as loss of appetite, appear to be due to the effects of the retained bile. The anemia and diminution of plasma protein that occur in the icteric animal may be in part due to dietary and absorptive factors, but it is probable that associated hepatic injury also plays an important part. In view of the associated anemia and decreased protein content of the plasma, it might appear that large amounts of meat should be added to the diet. That the reverse is true is readily seen when the survival time of jaundiced dogs on a meat diet is compared with that of dogs fed mainly carbohydrate and the proteins of milk and eggs. Accumulation of bile pigment in the tissues may not be the most important feature of jaundice, but it is the most noticeable. Bile pigment continues to be formed in animals after complete removal of the liver, and there can be no doubt that hemoglobin is the material from which it is derived. Injections of hemoglobin increase the formation of bilirubin, as has been demonstrated in the bile fistula animals, jaundiced animals and dehepatized animals. It has not been proved that the hepatic cell forms bilirubin. The main evidence presented to date that the hepatic cell makes bilirubin is that the jaundice produced by certain substances, notably toluylenediamine, is prevented by removal of the liver. This consideration must remain as a possibility until the mechanism of the jaundice caused by toluylenediamine is conclusively determined, although it appears rather unique that injury to a cell should cause it to increase its activity in one respect and decrease it in another. The liver may be considered as an excretory organ for bile pigment, since not only is the major amount of bilirubin formed outside the liver but accumulation of this substance in the blood and tissues occurs when the hepatic excretion is impaired or prevented. The van den Bergh reaction for serum bilirubin is indirect in animals that have become jaundiced following complete removal of the liver. No important function has been ascribed to bilirubin

except that of an excretory product derived from the breakdown of hemoglobin in the body. The bilirubin excreted in the bile is not reabsorbed as such but is acted on by bacteria and perhaps some intestinal enzymes to form urobilinogen and urobilin, which may be absorbed into the portal system. Most of the absorbed urobilin is absorbed by the liver and excreted again into the intestine. No urobilin is formed if bilirubin is not present in the intestine except in some instances of cholangitis in which the urobilin is formed in the infected bile ducts. Bile salts, like bile pigment, are intimately connected with any consideration of jaundice. With complete obstruction of the biliary outflow, the amount of bile salts excreted in the urine is only about half of that found in normal animals with biliary fistulas. Injury to the liver by chloroform, carbon tetrachloride or toluylenediamine further reduces the amount of bile salts in the urine and blood. The terminal decrease in excretion of bile salts in continued obstructive jaundice does not occur until considerable secondary hepatic injury is demonstrable.—(*Journal A. M. A.*, Feb. 2, 1935.)

### EFFECTS OF TOBACCO ON PERIPHERAL VASCULAR SYSTEM

IRVING S. WRIGHT and DEAN MOFFAT, New York, observed that the smoking of tobacco in the form of "standard" cigarettes produces in the great majority of normal subjects certain definite pharmacologic effects: 1. A marked drop in surface temperature occurs at the tips of the fingers and toes. This varies in different persons with the same tobacco and in the same person at different times. The average drop in their series was 5.3 degrees F.; the maximal drop was 15.5 degrees F. Surface temperature taken at the forehead and waist did not show a similar change. 2. Slowing and stoppage of the blood flow in the capillaries of the nail fold were frequently observed during these tests. The length of time a subject had been a smoker and the number of cigarettes habitually smoked daily had no determinable effect on the degree of the temperature drop. Certain subjects showed marked toxic effects from smoking one cigaret under controlled conditions. In each instance, these were experienced smokers who ordinarily note slight or no symptoms from smoking. Slight, if any, difference could be noted between the effects of standard, denicotinized and mentholated brands of cigarettes. No effects on the peripheral circulation could be noted following the smoking of "ashless filter paper cigarettes." No direct relationship between the degree of drop in peripheral surface temperature and the skin tests for tobacco and nicotine could be established. The lack of symptoms noticed by experienced smokers, under usual conditions of smoking, is probably, at least in many instances, not due to the development of an immunity to the toxins of tobacco smoke but rather to a conscious or subconscious control of the rate and depth of inhalation, which keeps the toxic effects at a submanifest level. Although not definitely proved, the evidence seems to indicate that nicotine is at least one of the toxic factors and that carbon monoxide and the products of the cigaret papers may be eliminated as offending mediums.—*Jour. A. M. A.*, Aug. 4, 1934.



# THE JOURNAL

OF THE

*Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOL. 34

MAY, 1935

No. 5

## SOME CLINICAL ASPECTS OF PITUITARY BASOPHILISM

ROBERT C. MOEHLIG, M.D.

DETROIT, MICHIGAN

It is always opportune in medicine to become retrospective and see how our viewpoints have changed with the addition of knowledge. From a wilderness of perplexities we have now gathered a storehouse of facts. It is but a short time ago when the diagnosis of appendicitis called for abscess formation, when a brain tumor meant choked disc, projectile vomiting and headache. In our own field of endocrinology the diagnosis of hyperthyroidism, for example, necessitated the presence of tremor, tachycardia, loss of weight and an array of symptoms which we now know are not essential to this diagnosis.

This improvement in diagnostic skill is, of course, due to the painstaking observations of many investigators. The thyroid, because of its accessibility and its comparatively easy removal in man and animals, has lent itself to investigative physiological studies and so our knowledge of this gland's functions is on a very high plane.

The pituitary gland, so well hidden through its inaccessibility, has been slower in surrendering its secrets, but here too the riddle of its functions is no longer as baffling as it was some five years ago. Therefore, governed by precedent and fortified with the knowledge gained from the study of thyroid pathology with its varying clinical picture, I propose to show that basophilic adenomas and basophilic hyperplasia of the pituitary produce a clinical picture varying in certain details from the syndrome as described by Cushing.<sup>2</sup>

The syndrome of basophilism is characterized by "(1) a rapidly acquired, peculiarly disposed and usually painful adiposity (in one instance representing a 40 per cent gain in weight), confined to the face, neck and trunk, the extremities being spared; (2) a tendency to become round shouldered

(kyphotic) even to the point of measurable loss of height associated with lumbo-spinal pains; (3) a sexual dystrophy shown by early amenorrhea in the females and ultimate impotence in the males; (4) an alteration in normal hirsuties shown by a tendency to hypertrichosis of face and trunk in all the females as well as the pre-adolescent males and possibly the reverse in adult males; (5) a dusky or plethoric appearance of the skin with purplish lineæ atrophicæ; (6) vascular hypertension; (7) a tendency to erythremia; (8) variable backaches, abdominal pains, fatigability and ultimate extreme weakness."

Less constantly present are "(1) acrocyanosis; (2) purpura-like ecchymoses, whether from bruising or occurring spontaneously; (3) aching pains in the eyes, associated with slight exophthalmos, with transient diplopia, with suggestive papilledema, with dimness of vision, with subretinal exudate and retinal hemorrhage; (4) extreme dryness of the skin, with pigmentation; (5) polyphagia, polydipsia and polyuria; (6) albuminuria of slight degree with occasional casts; . . . (9) a sense of

suffocation and difficulty in swallowing; (10) insomnia; (11) polymorphonuclear leukocytosis."<sup>2</sup>

It is only reasonable to suppose that our present knowledge of pituitary physiology permits us to diagnose with reasonable accuracy variations in the clinical symptomatology of basophilism due to the same pituitary pathological picture. From Cushing's description of the syndrome and his discussions, it is evident that he anticipates some variation in the clinical picture.

Rutishauser<sup>10</sup> described three cases of pituitary basophilism which showed some degree of clinical variation from that described by Cushing. He has termed his cases osteoporotic obesity, thus emphasizing two symptoms. He calls attention to the fact that hirsutism is not a part of the picture, despite the fact that the adrenals are enlarged. The blood pressure shows marked fluctuations within a short space of time. He also calls attention to the plethoric full moon face but none of his cases showed polycythemia.

He goes on to describe three cases which fit into the classification as given by him. One of the cases had been followed from the age of eleven to twenty-three years, when the patient died of cerebral edema and hemorrhage. This patient already showed a congenital predisposition, for at the age of eleven years she was 22 centimetres smaller than normal and about 6 kilograms overweight. The anatomical and pathological diagnosis was osteoporotic obesity, agenesis of the posterior pituitary lobe, marked hyperplasia of the pituitary basophil cells under the picture of numerous areas of nodular hyperplasia, generalized obesity, marked osteoporosis, hypoplasia of the ovaries and uterus, dwarfism with closed epiphyses, diffuse lipoidosis of the parathyroids, enlarged lipoid-containing adrenals (20.15 grams), hypoplasia of the aorta, fibrous nodules of the heart, fresh hemorrhages in the meninges, acute edema of the lung.

We learn from this case that a congenital predisposition exists for basophilism. This is evidenced by the obesity, enuresis and dwarfism at an early age. This latter condition of dwarfism would be understood if we assumed that the pituitary overactivity early in life resulted in a too rapid ossification of the long bones so that dwarfism re-

sulted and growth in height was impossible. As we look at the complete picture of osteoporosis, fibrous nodules in the heart, hypertension, small uterus and hypoplastic ovaries, lipoidosis of the parathyroids, we are impressed with the similarity to old age, so that at twenty-three years the patient, due to pituitary basophilism, had reached senility.

The osteoporosis found in basophilism is of interest. Rutishauser,<sup>10</sup> basing his conclusions on the lipoidosis of the parathyroids found in his three cases, believes that it is due to the pituitary and not to the parathyroids. Cushing,<sup>3</sup> on the other hand, believes that the osteoporosis is the result of parathyroid participation in the syndrome. Aub,<sup>1</sup> studying one of Cushing's cases, found a marked negative calcium balance despite normal blood calcium and phosphorus values. It must not be forgotten that postmortem morphology is not necessarily the criterion by which one can judge antemortem function. It might well be argued that the excessive pituitary activity stimulates the parathyroids to the exhaustion stage, followed by lipoid degeneration of these glands.

Of interest in this regard is the recent work of Hoffman and Anselmino,<sup>5</sup> who demonstrated in experiments on dogs and rats that the calcium content of these animals increases under the influence of anterior pituitary extracts. In parathyroprival rats, however, extracts of the anterior lobe did not produce an increase in the calcium content of the blood. They believe that the pituitary extracts activate the parathyroids, resulting in an increased parathyroid secretion. Furthermore, these workers describe the action of anterior pituitary extract on the histologic picture of the parathyroids of rats. They were able to produce characteristic morphologic changes in the parathyroids. These glands were two to three times the original size. They interpreted the histologic changes as signs of parathyroid activation. It would seem then that the osteoporosis of basophilism is due primarily to pituitary overactivity and secondarily affecting parathyroid function.

Kepler, Kennedy, Davis, Walters and Wilder<sup>6</sup> of the Mayo Clinic reported seven cases which have, in the main, all the symptoms of pituitary basophilism. Two of these showed at operation an adenoma of the



suprarenal cortex; removal of the adenoma was followed by complete regression of the previously abnormal characteristics. The pituitary in three of the four cases which died showed a basophil adenoma in one; the other two showed a normal pituitary.

Rutishauser says that he is able to confirm Cushing's work, but emphasizes the fact that the clinical picture is not produced solely by adenomas of the pituitary but also by hyperplastic conditions of the gland. The Mayo clinicians say that from the evidence at hand one might speculate that the dominant part was taken by the suprarenal gland, even in cases in which basophil tumors of the pituitary were present. Furthermore, they say the problem is extremely puzzling. They feel that the answer to the question of dominance of either pituitary or suprarenal must wait, it would seem, until the hormones of the pituitary and those of the suprarenal cortex have been isolated in satisfactory purity and in sufficient amounts so that spontaneous disease can be reproduced experimentally. Without being so bold as to step into such pitfalls as this situation offers, I would venture the opinion that either gland may initiate the syndrome and the other gland responds to the pathology, a so-called reciprocal action. Poos,<sup>9</sup> using various animals in a large series of experiments, concluded that the pituitary always reacts qualitatively in the same way when other glands of internal secretion are disturbed by experimental attack. The quantitative differences are dependent upon the severity of the endocrine changes produced and secondarily on the length of the experiment.

It would seem from our increasing knowledge of endocrine physiology that each gland is definitely specific in its function. When these specific functions are learned, then we will not have to depend upon the changes in cell morphology found postmortem, but will come to rely upon the clinical picture to help us interpret glandular activity, even if the pathologist says the glands appear normal.

Pardee<sup>8</sup> reported seven cases which he believed belong to the basophilism group. He attempts to subdivide the cases into certain groups. He says the syndromes of pituitary basophilism are numerous and at the present time can only be tentatively outlined. He also says that one may consider a possi-

ble involvement of both suprarenal and pituitary glands.

Cushing,<sup>4</sup> who discussed Pardee's paper, warns of attempts to divide this syndrome into a number of subvarieties, when, after all, little is known about the complete expression of the disease. The more that is learned about it, he says, the less inclination there will be to divide it into clinical subtypes. What is chiefly needed for the progress of knowledge is a greater number of pathologically verified cases and less clinical speculation regarding the etiology of suggestively similar and borderline states. All pituitary disorders are, of course, symptomatically polyglandular and the variable degree in which they secondarily derange the parathyroid, suprarenal, thyroid glands or pancreatic islets will serve to modify the resultant clinical pictures. Furthermore, he says "By a basophilic adenoma I mean what the term 'adenoma' implies and not merely, as some critics have assumed, the tiny accumulation of basophilic elements so often seen in the pars distalis."

From Rutishauser's verified cases, the syndrome, it would seem, could be caused solely by hyperplasia of the pituitary and, if this is true, then a better understanding of the whole picture can be gained. It may be that it can also be produced by what appears, with our present methods of examination, a normal pituitary gland.

Most cases of pituitary basophilism have been found in women of short stature and, as previously stated, this would seem to be evidence of a congenital predisposition. This would mean more specifically that the pituitary was overactive early in life resulting in premature ossification. In the cases I have seen the congenital character was evident from the hereditary standpoint in that the mother was of practically the same short stature as the patient. On the other hand, a young woman of twenty-seven years, having all the signs and symptoms of basophilism, was 67 inches in height. The inherited nature of this condition is shown by the fact that the mother was 69 inches in height, one brother 76 inches and another 74 inches. In addition the mother and two sisters had a marked growth of hair on lips, chin, cheeks, chest, arms and legs, just like the patient.

Naturally the more the laws of inheritance are studied, the better are we able to

understand the almost countless variations possible with the same glandular pathology. Thomas H. Morgan,<sup>7</sup> who has contributed so much to our knowledge of inheritance, has been able to produce in the *Drosophila* mutations in form at will. From these studies certain practical applications can be drawn in endocrine work and it is in particular reference to the lack of hirsutism and other variations of basophilism that I refer.

In discussing sexual selection and hormones he says: "The way in which the organs or characters are determined by the balance of the chromosomes is a matter at present of pure speculation. Goldschmidt suggests, as others have done, that the genes may act as enzymes—that is, they are themselves enzymes or produce specific enzymes. This gives a picture of the genes as hormones. He supposes, in fact, that these enzymes begin to function at different rates—the male enzymes beginning before the female in certain crosses and conversely in other crosses. This explanation may seem to be no more than a description of the results in terms of postulated enzymes, but would be justifiable, whether in terms of enzymes or not, on the basis of a consistent relation running through an extensive series of crosses, as well as by Goldschmidt's examination of pupal stages of the hybrids. Omitting the enzyme hypothesis as not established by direct observation, it might be said that in certain races of the gypsy moths the balance between all the genes affecting sex determination is more on the female side and in other races on the male side. In the hybrid these relations are supposed to affect the characters in the way he postulates. It is equally conceivable, however, that all the genes may be functioning all the time, the effect depending on the nature of the different organs or on the age at which the genes exert their influence.

"In contrast to these intersexes there are other unusual types that are called gynandromorphs in which one part of the body may be strictly male, another part strictly female. These are interesting as showing that in insects, at least, male and female characters may exist side by side without any effect on each other. Gynandromorphs are otherwise interesting, as well because they furnish striking and convincing evidence that the chromosomes are the bearers of hereditary characters."

What seems most interesting is the ability of Morgan and others to predict in the *Drosophila* where the crossing over of new genes takes place. This they are able to do with the aid of a chromosome map or chart of the location of the genes in the four chromosomes of the *Drosophila*. Naturally hirsute and non-hirsute types may be produced.

If such be the case in lower animals, then, applied to man, it becomes apparent that, due to inheritance, our ability to influence cell development and function postnatally by glandular extracts, however potent, is to a great extent limited. In lower animals success with potent glandular extracts has been amply shown and many radical and remarkable changes have been brought about by these extracts. But when used in man, the highest and most complicated biological product in existence, it must be admitted that there is not the striking success such as seen in lower animals. We may well ask, can we change the inherited protoplasmic cellular make-up by glandular extracts? Are the failures due to these inherited characteristics, granting we have potent extracts? Applied to pituitary basophilism of the two types here cited, hirsute and non-hirsute, is it reasonable to suppose that we can produce hirsutism in individuals who have a non-hirsute inheritance by pituitary extract when a supposedly very active pituitary basophil adenoma is unable to produce it in such individuals?

The inherited characteristics carried in the chromosomes is nowhere so interestingly studied as in homologous twins. I had occasion to see female twins who gave an interesting menstrual history. One of them gave me the following brief history: "My twin sister and I were born February 18, 1897. We did not reach puberty until the day before our seventeenth birthday, when both of us started menstruating, as I remember, one of us in the morning before going to school and the other at noon. Our menstrual periods were short, with scanty flow, and with a great deal of irregularity. The following year, while away from home at school, neither one of us menstruated during the fall school period. Both of us, however, menstruated during the Christmas holidays and from then until marriage at the age of twenty-five we continued to be quite irregular. After marriage both of us



have flowed regularly but scantily ever since." It is also interesting that both had umbilical hernia and both had the same children's diseases. Since the pituitary is the motor of the ovary, it is most interesting that its function should be identical with the same ovarian response at identically the same time.

Likewise I had occasion at one time to see homologous female twins, age thirty-nine years, who entered the hospital at the same time for the same complaint, a swelling in the lower abdomen. Operation in these twins disclosed a teratoma of the ovary on the same side in each case. Naturally these cells with their tumor disposition were present in the germ plasm.

Other examples of constitutional chromosomal inheritance are shown in homologous twins who develop epilepsy at the same time, enter criminal careers at the same time, and develop insanity at the same time, all this despite different environments.

Thus we see that glandular activity or glandular histological cellular make-up must be inherited. Such examples of chromosomal inheritance with the inherited glandular and tissue response have a tendency to make a fatalist out of the endocrinologist, at least if he accepts this chromosomal dictum. It likewise curbs one's enthusiasm as to just how much we can change the cellular make-up by animal extracts. It would seem, at least in our present state of endocrine knowledge, that control of tissues postnatally, by organic animal extracts, is rather remote. This constitutional inheritance of tissue response and make-up would

explain many of our therapeutic endocrine failures. Perhaps when we use extracts prepared from human material it may be a different story, but at any rate recognition of these limitations will hasten our physiological endocrine progress.

### Summary

Pituitary basophilism may present a variation in the clinical picture from that described by Cushing. Hirsutism may be lacking entirely. The syndrome may be produced not alone by a basophil adenoma of the pituitary but also by hyperplastic conditions of this gland.

The osteoporosis found so frequently in this syndrome is probably due to the pituitary activation of the parathyroids.

Constitutional inheritance is seemingly responsible for the variation in the clinical picture rather than a difference in glandular pathology.

### References

1. Aub, J. C.: Cited by Cushing (Ref. 3).
2. Cushing, H.: Basophil adenomas of the pituitary body and their clinical manifestations (pituitary basophilism). *Bull. Johns Hopkins Hosp.*, 50:137-195, (March) 1932.
3. Cushing, H.: "Dyspituitarism," Twenty Years Later. *Archiv. Int. Med.*, 51:487-557, (April) 1933.
4. Cushing, H.: Discussion of paper by Dr. Pardee (Ref. 8).
5. Hoffman, F., and Anselmino, K. J.: "Über die Wirkung von Hypophysenvorderlappenextrakten auf den Blutkalkspiegel. *Klin. Wochenschr.*, 13:44-45, (Jan. 13) 1934.
6. Kepler, E. J., Kennedy, R. L. J., Davis, A. C., Walters, W., and Wilder, R. M.: Suprarenal cortical syndrome and Pituitary basophilism. A presentation of three new cases. *Proc. Staff Meet. Mayo Clinic*, 9:169-181, (March 21) 1934.
7. Morgan, T. H.: *The Scientific Basis of Evolution*. New York: W. W. Norton & Co., 1932.
8. Pardee, I. H.: Basophilic syndrome of the pituitary (pituitary basophilism, Cushing). *Arch. Neur. and Psych.*, 31:1007-1025, (May) 1934.
9. Pöös, F.: Genese und Deutung der Reaktionsformen der Hypophysis cerebri. *Ztschr. f. d. ges. exper. Med.*, 54:709, 1927.
10. Rutishauser, E.: Osteoporotische Fettsucht (Pituitary basophilism). *Deutsches Archiv. für Klin. Med.*, 175: 640-680, 1933.

### REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

According to Ray Lyman Wilbur, Stanford University, Calif., all education is undergoing a searching scrutiny. Costs, objectives and methods are being questioned. The profession of medicine requires new recruits each year who are better trained than those of the past. The Council on Medical Education and Hospitals has recognized the necessity of a restudy of medical education and decided on a reinspection and reclassification of the medical schools of the country. It is the policy of the Council to employ two inspectors in each visit in order to eliminate as far as possible the personal equation and to secure well balanced and dependable reports. From the studies thus far conducted it is apparent that some schools are accepting more students than the circumstances justify. In some instances physical or clinical facilities are inadequate,

and in some instances many students are admitted whose academic records are poor. The situation in psychiatry, public health and obstetrics is definitely inadequate in many schools. So far, the inspections have shown a remarkable strength in the basic sciences and main clinical departments of most schools. The Council has been studying the relationships of the specialties to special examining boards. Some of the difficulties now being encountered are: 1. Most of these special boards have adopted the statement that the applicant must be "a graduate of a medical school which is satisfactory to the board." 2. Some of these boards require the candidate to have limited his practice and to indicate that he intends to continue to limit his practice to the special field involved. 3. This limitation is particularly difficult with respect to obstetrics and gynecology. 4. The procedure of refusing a certificate or examination should be modified.—(*Journal A. M. A.*, March 30, 1935.)

## HEREDITY AND ENVIRONMENT IN RELATION TO THE HANDICAPPED\*

### Lecture II. The Amelioration of the Conditions of the Handicapped and the Possibilities of Reduction of Their Numbers by Modifications of Heredity and of Environment

LEWELLYS F. BARKER, M.D.  
BALTIMORE, MARYLAND

#### 1. Amelioration of the Conditions of the Handicapped

In my first lecture I dealt with the origin of handicaps. Tonight, we shall consider (1) the ways in which those who are handicapped may be helped, and (2) the methods of reducing the number of those who will be handicapped.

The medical profession and society as a whole have a right to feel greatly pleased at the progress that has been made, especially during the past few decades, in the discovery and application of measures that have contributed significantly to the welfare of the handicapped. New methods of prolonging their lives, of decreasing their physical and mental disabilities, of compensating for their social and economic insufficiencies, and of increasing their morale are continually being devised and ever better arrangements are being made to apply them.

In the first place, handicapped persons are better studied now than ever before. Attention is paid by physicians not only to the main handicapping condition presented but also to every organ and organ-system of the body with the idea of making an inventory of all things pathological and all things normal in the person under examination in order that his total situation may be more or less precisely determined. Only after such a careful multidimensional study has been made is it practicable to form adequate plans with regard to the best methods of dealing with the particular case.

In the second place, the effort is now made to give each person, after study, every advantage that can be derived from the various forms of therapy at our disposal—physical and mechanical therapy, surgical therapy, pharmacotherapy, therapy in which biological products are employed, psychotherapy, and institutional therapy when required.

In the making of the arrangements for study and treatment, the social-economic situation of the handicapped person, has to be kept in mind in order that the best possible

solution of his problems in his circumstances shall be arrived at. We should strive to apply to each person after study of his somatic and psychic make-up every measure that may serve to strengthen weak points in the bodily fabric or in the psychic make-up.

It is often astonishing how much benefit handicapped persons can receive when they are studied and treated in this thorough and individualistic way. Though the genotypic factors of a person cannot be changed, the environment has much to do with the actual concrete traits that emerge. When organs that are defective are adequately protected from over-exertion and when measures are taken to prevent further handicapping and to keep the general health otherwise at the highest level possible, lives of great usefulness can often be led. Think, for example, of persons with valvular diseases of the heart or with certain forms of myocardial disease who were formerly condemned to lives of desuetude; how many of them through finding suitable occupations remain productive members of society for years and often for decades. Think, too, of the tuberculous patients who formerly were regarded as hopeless prospects but who, nowadays, are saved and returned to social and economic life. Some of the chronic anemias that formerly resisted treatment have become amenable through the removal of focal infections or through the administration of hydrochloric acid, together with stomach-treated liver extract. The victims of

\*The Beaumont Lectures of the Wayne County Medical Society, 1935.



prolonged chronic indigestion often cease to be handicapped after surgical intervention for gastric or duodenal ulcer, for chronic appendicitis, or for gall stones. Many young people crippled by arthritis, have, in time, become agile again after removal of infected tonsils, adenoids, or teeth. Even when diseases of the spinal or other joints have left residuals that cannot be gotten rid of entirely, the handicapping they tend to produce is, today, often overcome in large part by the ministrations of the skillful orthopedist and by the experts in physical and psychotherapy. Our orthopedists have learned, too, how to be helpful at small cost to the victims of congenital club foot and congenital anomalies of the hip joint, especially since they have learned to intervene very early, even in the suckling period. Paralysis due to poliomyelitis are more or less permanent and are definitely handicapping, but with balneotherapy, with thermotherapy and with suitable supportive apparatus the handicaps may be overcome so largely that practically normal lives may be led; one may suffer from poliomyelitic crippling and still, later on, even become President of the United States! It is highly desirable that, in addition to attention to physical handicaps, care should be taken to prevent the development of "crippled personalities." The emotional problems, the personality difficulties, and any maladjustments should be given due consideration. I understand that at the Sigma Gamma clinic and hospital school, in this city, all such problems are duly appreciated. The residuals of epidemic encephalitis may be much more serious than those of poliomyelitis and the after-effects in the form of mental and physical impairment may be far less amenable to therapeutic intervention; still, even a post-encephalitic Parkinsonism can often be greatly ameliorated by the systematic use of hyoscin, atropin or scopolamin. Some forms of epileptiform seizures are amenable to medical treatment and some to surgical intervention. Certain types of insanity and of feeble-mindedness are, to some extent, amenable to therapy in suitable institutions but, unfortunately, all too many of them involve handicaps that are insuperable and compel permanent segregation from home and from society at large. Many children have personalities that are more or less

psychopathic and the greatest tact is required in dealing with their difficulties—lack of self-confidence, egoism, sex abnormalities, pathological fantasies, day-dreams, explosiveness or cowardice. When parents have only one child, the family physician should warn against the special dangers that exist. Young persons handicapped by in-born criminal tendencies, too, offer problems that as yet are far from being solved.

Luckily, the handicaps due to diseases and anomalies of the organs of special sense have been more amenable to attack. Our specialists on diseases of the eyes, ears, nose and throat and paranasal sinuses have great triumphs to record in their domains as every practitioner is well aware.

Profound disturbances of nutrition (extreme emaciation or extreme obesity) may greatly handicap certain young people unless the causes are discovered and removed—fortunately possible in no small proportion of the cases. The youthful diabetic was formerly doomed to retirement from active life and to an early death; today, with suitable diet and with the systematic use of insulin, he can often be kept very well and capable of participating in active business or professional life. Our knowledge of the glands of internal secretion and their functions has made such great advances that many of those who are handicapped by endocrinopathies can be greatly relieved by therapy. I need only remind you of the restorations that follow thyroidectomy in Graves' disease, or the administration of thyroid extract in cretinism and in myxœdema, or the removal of one or more adenomatous parathyroid glands in osteitis fibrosa, or the administration of Collip's parathyroid hormone in tetany, or the administration of pituitrin in diabetes insipidus, to illustrate what I mean.

The task of ameliorating the conditions of young people who are handicapped by disease or anomaly enlists the sympathy and the active therapeutic intervention of every physician, surgeon, and specialist who comes in contact with them. It is interesting, too, that those physicians and surgeons who have had most to do with the study and the treatment of the handicapped, especially among the young, are among those who have evinced the most active interest in plans to reduce their numbers!

## 2. The Prevention of Handicaps

We must now ask ourselves the question: In how far is it possible to prevent the development of the handicaps that I discussed in my first lecture? It is the task of preventive medicine and of hygiene to do everything within human powers not only to prevent the occurrence of accidents, diseases, and anomalies but also to ensure longevity and an abounding vitality for the members of the race. And in our time, more than ever before, medical practitioners are expected to be not only healers of human ills but also preventers of them. Though they are still counted upon to diagnose diseases and to treat them, they are also expected to prevent invalidism and to guide those whom they serve toward the best possible goals of life (physical, mental and moral). Thus the physician of today is compelled to combine with the functions of his predecessors some of the duties that were formerly considered the provinces of priest, of philosopher, or of personal friend. It is but little wonder, therefore, that in preparation for medical careers in our time, training in the medical sciences and arts in the narrower sense has had to be supplemented by some training in psychology and sociology as well as by the acquisition of a certain amount of knowledge in the domains of philosophy and of ethics. Without such widening of their education, physicians would find it difficult to act as reliable guides to human health in the larger sense, by which I mean "the capacity to make adequate responses to influences in the surroundings." For, as I have said in an earlier paper, "life is response of organism to environment; health of constitution is capacity for adequate response of organism to environment; and health of person would seem to be adequacy of responsivity because of possession of health of constitution, on the one hand, and of exposure to environments that are not too inimical, on the other." Incapacity adequately to respond to the situations of life, no matter what the cause of that incapacity, is a definite handicap, to be prevented as far as is humanly possible.

Measures intended to prevent handicaps will obviously, therefore, fall into two great groups: (a) those that attempt to ensure favorable environments (euthenical measures), and (b) those that attempt to ensure

favorable inheritance (eugenical measures). To a brief discussion of the methods of euthenics, on the one hand, and of the methods of eugenics on the other, the lecture of tonight will be chiefly devoted.

(A) APPLICATION OF THE PRINCIPLES OF EUTHENICS TO THE PREVENTION OF HANDICAPS.—Theoretically, euthenical measures include efforts at prevention of all harmful influences of environment, be they physical, chemical, biological, psychological, social, economic or political. Among these harmful influences, traumata, intoxications, and infections stand out as predominantly important from the practical standpoint of the general medical practitioner. Though much has been done to diminish the handicapping *traumata* of early life, far too many still occur and some forms of traumata, notably those due to automobile and aeroplane accidents, are greatly on the increase. *Intoxications*, due to improperly preserved or prepared foodstuffs, have been much decreased by legal control and by education of the public with regard to precautionary measures. Protection from many poisonous chemical substances is provided for by law, and vigorous campaigns to prevent the abuse of alcohol and tobacco, especially by the young, are ever being conducted. Many *infectious processes* formerly very prevalent are now largely prevented by public health services, by quarantine, by hygienic instruction, and by immunizing processes of various sorts. Think, for example, of the relative frequency of epidemics of typhoid fever and of diphtheria thirty years ago as compared with today. The prevention of tuberculosis has made rapid strides in the United States; measures of prevention together with early diagnosis of tuberculous infection and prompt adequate treatment has made the death rate from tuberculosis approach a figure of 50 per 100,000, the dividing line between the major and minor causes of death. The tuberculosis death rate between the ages of ten and thirty-nine was about 40 per cent lower in 1933 than in 1930—a most gratifying change for the better. Small pox, thanks to vaccination, is now almost a matter of ancient history and many other infectious diseases are likely to be stamped out by similar methods. Since 1910, when Flexner and Lewis showed that the serum of patients convales-



cent from poliomyelitis contains protective substances, many infections with poliomyelitic virus are being aborted (during epidemics) in the preparalytic stage by intraspinal and intravenous injections of serum; a prophylactic serum from the horse for intramuscular injection is also now available. Yellow fever and malaria disappear with adequate mosquito control. Unfortunately, our knowledge regarding prevention cannot always as yet be applied; for example, during the past two months a terrible epidemic of malaria has ravaged the island of Ceylon, more than a quarter of a million persons contracting the disease, and about 3,000 dying of it, one-third of the deaths being among children. The *food deficiency diseases* (including the avitaminoses) bid fair to become greatly diminished with the ever-increasing enlightenment of the public with regard to their origin. *General hygiene*, too, has made rapid development in these United States during recent decades. But we dare not be too easily satisfied. Reform measures must continue to be advocated and achieved. Think, for example, of housing conditions; they are becoming ever better, but the newspapers of January 5, 1935, report the discovery, in southwest Missouri, by Federal property enumerators of a group of thirty-one persons all living together in a one-room hut with a heating plant improvised from an inverted wash tub!

Many handicaps of the young are being prevented by better *protection of expectant mothers* from harmful environmental influences. Attempts are now made to see to it that pregnant women are not allowed to overwork, to be improperly fed, to contract infections, or to be poisoned by alcohol or other harmful substances. General practitioners, obstetricians and various social agencies coöperate in the education of these expectant mothers and their families in the hygiene of pregnancy and do their best to aid in warding off anything that could be deleterious to the children that are soon to be born.

In the *hygiene of infancy and childhood*, also, great strides have been made in our time. Higher standards of bodily health after birth are maintained; the training in good habits is begun in the early weeks of life; the home atmosphere tends to be ever more one of self control, order, and good-

will, with abolition of examples of laziness, intemperance, irritability, cowardice and insincerity; the child is gradually "hardened" physically by means of fresh air, baths, and exercises and psychically by encouragement in the bearing of unavoidable discomforts patiently and in the facing of dangers without cowardice.

When the school period is reached previously unsuspected handicapping tendencies are often discovered. Inability to keep pace with the regular work of the school (mental backwardness) should lead to careful clinical studies to determine whether this be due to actual brain defect (with true mental deficiency) or merely to some physical abnormality of the eyes, ears, tonsils, digestive tract or endocrine system that can be overcome. At the school age, too, so-called "problem children" with character defects emerge whence only too often the delinquent and criminal classes are later on recruited; if these character defects are detected early, something can be done toward the prevention of malign developments later. Again, children who for economic or other reasons are prevented from obtaining a good education are definitely handicapped in comparison with children who can be well educated. Every effort should be made, therefore, to see to it that each American child receives the kind and the degree of education best suited to it. I would point out, however, that attempts to educate children and young people beyond their capacities and especially the spending of money and time for a college education upon those unfitted to profit by it are serious errors; I am convinced that in the United States a considerable percentage of those who try to obtain a college degree and fail are more handicapped than they would have been had they received wise vocational counsel, entered early upon some productive occupation, and not attempted college.

For those who go to college as well as for those who do not, it is highly important that life occupations should be selected that are suited to the physical, mental and moral qualities of those that are to engage in them. No vocation that makes demands that cannot be met should be chosen; but the occupation decided upon should be such that it will make provision for exercising to the full the capacities that are actually available. Those who attempt to guide

young people in the choice of their vocations should, therefore, survey most carefully the personal assets and liabilities of those to whom they give advice.

Parents should see to it that their sons and daughters, during adolescence, receive all the protection, on the one hand, and all the stimulation, on the other, that our newer studies of hygiene have shown to be wise. Regularity of habits should be strictly enjoined, especially as regards work, exercise, sleep and recreation, for habits that become well established at this time of life are likely to be maintained through later life. Family physicians can often be of help to parents whose children in their 'teens find difficulty in solving inner conflicts among their instinctive tendencies; such aid may be of especial importance in preventing the development of nervous breakdowns or psychoses in young persons that have exhibited tendencies to shyness, seclusion, day dreaming or suspiciousness.

State governments are taking more interest than formerly in the preservation of the health of children and are organizing special departments with this purpose in view. In Indiana, for example, the Department of Child Health and Maternal Welfare has been assigned the Indiana University School of Medicine for management with participation of the State and County medical and dental associations in the work; educational campaigns bearing upon the health of the pre-school child and of the school child are conducted with vigor and with promise of success.

More and more heads of families are becoming interested in having their sons and daughters report to the family physician regularly one or twice a year for physical examination and for advice regarding both bodily and mental hygiene, the family physician calling specialists or even diagnostic groups to his aid when their services seem indicated. This practice is to be heartily endorsed; if it were more generally followed many disorders would be entirely prevented or would be detected in their incipency when therapy can be most efficacious. Time will not permit me to dwell longer upon the applications of eutheical methods to the prevention of handicapping processes, but I have said enough, perhaps, to indicate in a general way of how great value they may be. We must now

pass on to some consideration of the applications of eugenical methods with the same purpose in view.

(B) APPLICATIONS OF THE PRINCIPLES OF EUGENICS TO THE LESSENING OF THE NUMBERS OF HANDICAPPED PERSONS.—No less than sixty-five years ago, Galton, who later did so much to interest the world in the subject of eugenics, gave expression to the conviction that the human race was gradually deteriorating, and in 1883, he complained that the mentally superior families did not propagate as extensively as formerly. He then suggested that if deterioration of the race is to be prevented, a change in the relative fertility of the better constituted and the more poorly constituted classes of society must in some way be brought about. Though the human race may have reached its existing status through *mutation*, *natural selection* and the *survival of the more fit*, Galton evidently had become doubtful as to the further progress of human evolution without conscious intervention by man himself. Similar views are promulgated by many of the eugenists of today; thus at a recent meeting of the American Anthropological Association Professor E. A. Hooton of Harvard demanded "a biological new deal" and urged the replacement of natural selection by intelligent *artificial selection*, intimating that, in his opinion, man has long since ceased to show any evolutionary improvement.

Members of primitive populations attained, as a rule, parenthood only when they were very resistant, resembling in this respect animals and trees. Members of modern cultured peoples are less subject to early death and to other conditions of biological selection. Married people vary in the number of children they produce, a fact that tends to result in the *selective elimination* of the less fruitful; thus families that do not produce more than two children run the risk of relatively speedy extinction. When families of less valuable hereditary make-up have a greater number of offspring than families of more valuable hereditary make-up, there is a tendency in the biological sense to so-called "*contra-selection*." Many observers see, today, great danger of "racial degeneration" because they believe that the principal representatives of modern culture and persons whose germ-plasms contain



the best genotypic factors leave the fewest descendants.

But, even though all this may be true, it cannot be denied that natural selection is still going on in our modern environments. The more severely handicapped are apt to remain unmarried, or if they live to marry may produce a smaller number of offspring for economic or other reasons. Thus early diabetes and excessive obesity make certain persons sterile; the victims of congenital heart disease are prone to die earlier than others; severe mental diseases or mental deficiencies may lead to suicide or to confinement in asylums for the insane or homes for the feeble-minded and thus lessen procreation; those who do not succumb to infections are prone to be persons of greater natural resistance than those that die; tuberculosis weeds the population of many feeble constitutions, especially the profoundly asthenic and hypoplastic; survivors of venereal infections may produce fewer children or less resistant children than persons who do not contract such infections because of premarital sexual abstinence or through the use of protective measures during premarital coitus, and it is asserted that many of the childless marriages in civilized countries are due to sterility because of parental gonorrhea and many abortions and premature births are the result of parental syphilis; the relatively high mortality among sucklings is believed by many to be beneficially selective for the race through the elimination of the constitutionally inferior; and the victims of severe alcoholism and of drug habits (morphinism; cocaineism; heroinism) though they often have children, frequently give rise to offspring of low biological resistance.

In earlier times, *war* tended to improve racial factors since the victors tended to be the bodily and psychically superior, but in modern wars the physically and mentally unfit are rejected from military service so that their lives are preserved whereas the strongest and bravest are sent into the most dangerous war areas and are killed in great numbers. Eugenists like Popenoe and Johnson claim that the race-welfare of Europe suffered more in the last World War in which approximately ten million died than in any other similar period in the world's history. In certain *modern revolutions*, great numbers of the families of the cul-

tured and the well-to-do were exterminated, thus exerting a very unfavorable selective influence upon the general population. It must be remembered, however, that the more talented and the more intellectual families were gradually dying out before the War and before these revolutions and Lenz has gone so far as to say that the ill effects of war upon racial constitutions have not, upon the whole, been so very much worse than the contra-selective effects of modern Occidental civilization!

Since persons of different bodily and mental makeup are not evenly distributed through different social groups, the possible connections between this *social selection* and biological selection have been much discussed. Those who enter different occupations differ much in their types of constitution and in their social status; in the choice of an occupation by any given person, much depends upon the physical qualities and the intellectual assets at disposal, upon the education that has been possible, upon the economic situation, and upon the relationships of the family in the community. In general, even in a country like our United States with its much vaunted "freedom and equality," an ambition to rise in the so-called "social scale" is everywhere evident. Here we have no hereditary titled nobility that ensures high social standing; on the contrary, the way is wide open for the talented to rise to the social levels that they merit. Heredity undoubtedly plays a large part in the origin of the ability to learn and to profit by higher education. Though talented parents may have mediocre or even feeble-minded children, taken by and large the children of superior parents average higher in mental ability than do those of the untalented. The statistics of the descendants of Johnathan Edwards cited by Popenoe and Johnson offer a notable example of the inheritance of talent; among about 1400 of these descendants there were astonishingly large numbers of university professors, university presidents, physicians, lawyers, and important politicians and statesmen, and not a single criminal developed. On the other hand, intellectual inferiority may be just as strikingly familial as has been illustrated by the analyses by Dugdale, and later by Estabrook, of the 2,280 descendants of Ada Juke the majority of whom were inferior in one way or another—imbeciles, prosti-

tutes, criminals and unemployables—costing the state, it has been estimated, no less than two and a half million dollars for their support. Another dreadful example is the Kallikak family, described by Goddard; in this family, in which 40 pairs of feeble-minded persons married and produced 220 imbecile children and only two apparently normal children, there were also marriages of imbeciles with normal persons with 50 per cent of their children imbecile. Further evidence of a similar sort has been accumulated by Davenport and his associates in connection with the "Nam family" as well as with the so-called "hill-folk"; and European psychiatrists have described other badly fated families.

All must agree with F. Lenz when he asserts that the majority of men strive for a better or a higher life and for improved economic or social position for themselves and their families rather than for the production and maintenance of a large number of offspring. Now since biological selection is ultimately measurable exclusively by the number of descendants that in turn propagate, the man who leaves no children or who produces only one or two children is an example of *negative biological selection*, no matter how brilliant his social or economic career may have been. In the western countries of the world, members of the "upper classes" tend on the average to have fewer children than members of the "lower classes"; in other words, social advancement under modern cultural conditions leads gradually to the extinction of the families that are advanced. More members remain single; those who marry are prone to do so at a later age than formerly; and, since smallness of the family may contribute to further social and economic advancement, the tendency often is to restrict sharply the number of offspring. Thus the social selection of modern life may be one cause of biological contra-selection. As Dr. Raymond Pearl has well put it "the wrong kind of people have too many children and the right kind too few."

In order to keep families of good quality going, it has been estimated that there should be a minimum of three or four children per marriage; two will not suffice. The average number of children per family among intellectuals tends to be less than two; Cattell studying the number of chil-

dren per 1,000 marriages of intellectuals in the United States found the average to be 1:5 per family. In England S. Webb (1910) found the same average of 1.5 children per family of intellectuals whereas for manual workers the average number of children per family was approximately five. From such statistics the threat to the genotypic factors that make for intellectual superiority would seem to be obvious; and many have expressed the fear that there may be a rather rapid retrogression of the general endowment of the population in the more intellectual countries.

The smallness of the families of intellectuals seems to be brought about by intentional prevention of births, chiefly through the use of contraceptive methods during coitus, to a less degree through abstinence from sexual intercourse, and only slightly through induced abortions. The reasons alleged for such birth control have been partly economic and partly social; in addition, among university professors and investigators in scientific institutes the fear of hindrance to work has been adduced as a reason. Though *birth-control* could be made use of in families of pathological heredity as a means of racial betterment, its effects as at present employed would seem rather to be contra-selective through the gradual extermination of the more talented families. This is especially true in university circles; it seems paradoxical, and Galton deplored it, that universities supposed to be the nurseries of higher intellectual life should in reality prove to be places in which the hereditary factors that make for mental power are allowed to die out!

The modern opportunities for women in intellectual pursuits (teaching and other professions; private secretarial work, etc.) have also tended to have a contra-selective effect from the racial standpoint. Many of the intelligent women who seize these opportunities either do not marry at all, or if they marry, rigidly restrict the numbers of their offspring. Moreover, only about one-half of the graduates of our best colleges for women marry at all and those that do marry produce on the average less than one child per marriage!

In how far the *migration* of people from farms to the towns or from one land to another affects racial conditions is worthy of some consideration. Galton feared that the



removal of the more energetic and enterprising from country to town led gradually to their disappearance because of the learning of the methods of birth control or because of the acquisition in the town of venereal diseases that made many of them sterile. Migration from one country to another may affect greatly the constitutional makeup of national populations. Between 1820 and 1900 some twenty million immigrants entered the United States. Many of these were energetic, enterprising, adventuresome, brave persons, though among them were also many undesirable elements, some of the worst of these succumbing, however, soon after entrance to the new land. The majority of immigrants to the United States during the nineteenth century came from the northwest half of Europe and were of Nordic race. Since 1900, the immigrants have come chiefly from the southern and eastern parts of Europe. Recently, as you know, all immigration has been greatly restricted; but quantitative restriction is not enough and, as C. P. Armstrong has recently urged, the law should provide for a better qualitative selection of aliens. Though the definitely feeble-minded are excluded by law, many who are intellectually retarded are admitted. The inferior children of socially and eugenically unfit immigrants are creating a serious problem for the United States since they increase the number of mentally retarded deviates. In New York City the majority of the 12,000 children arraigned annually in the Children's Court, of the 1,000 chronic truants in the disciplinary schools, of the 18,000 wards of the Department of Public Welfare, of the 10,000 backward children in the ungraded classes of the public schools and of the 600 mental defectives at Randall's Island were found to be the offspring of foreign-born parents!

For mankind as a whole, the matter of the *relative numbers of the white, the black, the red and the yellow races* is, of course, of very great importance. When we think of what happened to the civilization of Greece and Rome in the course of a few centuries, we hesitate to make prophecies regarding the future of the various civilizations now extant or of their racial basis. Many fear that the large blond Nordic race is in danger of dying out; Madison Grant (1916) described it as "the passing of the great race" and thoughtful men in our coun-

try, in England, in Germany and in Scandinavian countries have urged the development of a community of interest among all members of the Nordic race as a matter of ethics. Gobineau inclined to the belief that a people would never die out so long as it continued to be composed of the same racial elements. C. G. Campbell of New York also has recently given expression to the view that race mixture causes racial deterioration. Possibly some such idea has been at the basis of the recent expulsion of great numbers of Jews from Germany! America is a vast mixture of racial groups in close juxtaposition. The numbers of the remaining Indians and of the yellow races in the United States are scarcely sufficient to constitute any serious problem. The greatest difficulties ahead with regard to racial groups probably lie in the relationships of whites and blacks in this country, and in the results of the admission during recent years of great numbers of inferior immigrants.

Every national population should certainly be on guard against influences that cause deterioration—so-called "cacogenic influences." I have shown the dangers of inhibiting selective elimination of the unfit and also the threat to capacities for culture that lie in contra-selective influences, especially in the relative infertility of the more desirable elements of populations. Provision should be made whenever possible for earlier marriages of the "fit," of the constitutionally superior, and for a larger proportion of children from such marriages. And the environment of all offspring should be made as good as possible since as Aristotle said, "The nature of man is not what he is born as, but what he is born for," or as Jennings has paraphrased it, "The inheritance of man is not alone what he is born with, but what he can develop." For every man has a great (though limited) number of varieties of possibilities of development in his genotype; which of these will be actually realized as his life goes on will depend upon the successive conditions to which his genotypic factors are exposed. A person who may because of his genotype develop a defect under certain conditions need not necessarily do so under other conditions. Heredity is powerful but environment is powerful also; each person becomes what he does because of the interaction of factors of both—in other words all character-

istics are dependent upon both heredity and upon environment and in modern genetic studies the effort is made to determine, by analysis of given cases and by statistical studies, in how far a certain characteristic is predominantly due to the genotype, on the one hand, or to the surrounding influences, on the other.

The genes of a spermatozoön, or of an ovum, can be injured before fertilization occurs. Severe injuries would doubtless prevent fertilization but milder injuries may change germ plasm slightly to the detriment of the genotypic factors it contains. Eugenists, therefore, are ardent supporters of the more sensible *movements that may help to protect germ plasms from injury* due to intoxications from alcohol, lead, or mercury or due to physical influences like over-exposure to x-rays or to radium. During the "prohibition era" in the United States, much alcohol was still consumed. Young people who before prohibition did not drink at all or limited their drinking to beer or light wines resorted to concentrated alcoholic drinks (bootleg whiskey or gin) and unfortunately many girls as well as boys acquired the habit of drinking many cocktails. Now that the use of alcohol is permitted again it is highly important that young people who drink at all should confine their libations to beer, light wine and much diluted alcoholic drinks. It may be found difficult to change the drinking habits of the present generation but strong efforts should be made to do so.

Eugenists also participate actively in campaigns for the *prevention of infections* with the *Treponema pallidum* or with the *Gonococcus* as well as in efforts for the prompt and thorough treatment of such infections. The poisons of syphilis may be very injurious to the hereditary factors in the germ plasm as everyone knows; moreover, all too often when the mother is infected, the causative micro-organism may be directly passed on as such to the embryo developing in her womb. In gonorrheal infections, the danger of injuries to germ cells is less, but sterility often results; but whether more constitutionally inferiors or more constitutionally superiors are thus rendered sterile by gonorrhea is uncertain. It was for a time feared that the law making it compulsory for physicians to report syphilis when found to the health authorities might keep

patients from consulting regular practitioners and drive them to quacks for treatment, but there is but little evidence that this has been true. The hygienic education of youth as to the dangers of venereal infections has done much, and will do more, to prevent illicit sexual intercourse and the contraction of venereal infections. And, though there is still much illicit indulgence, the use of protective coverings by those who indulge has done something toward preventing these dangerous infections. Many young men who have been exposed to syphilis now have *pre-marital medical examinations* including Wassermann tests and this practice is, of course, laudable. Even those who have not knowingly been exposed to infection with syphilis do well to be examined before marriage since it has been asserted that at least ten per cent of syphilitic infections are acquired otherwise than through sexual intercourse.

In some of our states there are not only laws that prohibit marriage of a person who has active venereal disease, but also of persons who are actually insane, who are feeble-minded, who are chronically alcoholic, or who suffer from epileptic seizures. The laws, however, rarely require that a medical certificate shall be obtained, the declaration of the marital candidate being held sufficient. In Norway, before marriage, a certificate of health from a registered physician is compulsory. I do not feel sure that the time is yet ripe in the United States for general laws that prohibit marriage for eugenic reasons. There would, probably, be less objection to laws that would make premarital consultation with a physician as to health and the advisability of marriage compulsory. In some countries it has been urged that certain medical men be appointed and paid by the government to be medical advisers regarding the fitness of those contemplating marriage and without cost to the applicants. In our country, I am inclined to think that, for the present at least, we shall accomplish most by means of systematic education of youth in the principles of eugenics and by trying to develop the practice of voluntary medical consultation before marriage into a common procedure rather than by premature passage of restrictive laws. The words of former President Hoover should be widely disseminated: "There should be no child in America that has not



the complete birth right of a sound mind in a sound body and that has not been born under proper conditions." Though impossible of complete realization it is a worthy ideal to work toward.

Since the opening of the new century the question of the desirability of *sterilizing the notoriously unfit* so as to prevent them from propagating has been much discussed. In an institute for defective delinquents in Indiana, Sharp in the first decade of the century sterilized nearly two hundred inmates who consented of their own free will when it was explained that the little operation did not interfere with sexual intercourse. Following upon the favorable results that he obtained, the State of Indiana passed a law for the selective sterilization of defectives and in a recent paper T. R. Robie reports that laws permitting selective sterilization are available in 27 states (more than half of the states of the Union) at the present time. In 1930, more than 90 per cent. of the members of the American Association for the Study of the Feeble-minded approved the principle of selective sterilization. In California and in Delaware where many such sterilizations have been performed, those who have informed themselves of the effects are enthusiastic supporters of the measure and believe that the sterilization law is one of the most important laws on their statute books. When we read of a "family in which 16 children were born, all of whom were of moron intelligence or lower, the father being an illiterate mental defective and the mother mentally retarded as well as epileptic," or when we recall the Kallikak family and the Jukes family to which I have already referred, we must have much sympathy with the efforts that are being made to lessen by means of legal selective sterilization the multiplication of such inferior types. In a study of school children in Germany, von Brunn (1934) found that those feeble-minded because of heredity made up 80 to 90 per cent of the feeble-minded children and he recommended that they be rendered sterile. Sterilization in the male by means of vasectomy is a minor operation requiring only a few minutes and devoid of danger. Surgical sterilization of the female is a more complicated procedure (salpingectomy) but non-surgical sterilization can be easily and safely performed by roentgeniza-

tion of the ovaries. Though we may not yet be ready for such a radical program of selective sterilization as H. H. Laughlin has suggested (100,000 sterilizations per year at first and larger numbers later on until all outspoken defectives in the United States are either made sterile or prevented from propagating by confinement in institutions), it is easy to see that much good could be accomplished by the judicious application of sterilizing methods, especially in definitely defective cases with undoubted hereditary transmissibility (either dominant or recessive). For bad criminal types, *permanent segregation* in prisons, as already arranged for in some of our states, will suffice without sterilization, but the future probably has a place for sterilization of criminals, vagabonds and habitual drinkers that cannot be permanently segregated. Mild mental deficiency may be a greater threat to the health of succeeding generations than marked imbecility or actual idiocy since the latter are very unlikely to propagate. When for any reason conception should be prevented and sterilization is not feasible, the physician should give instruction with regard to contraceptive methods. If wise laws regarding sterilization and segregation were passed and strictly enforced, it has been estimated that in less than a century at least 90 per cent of crime, insanity, feeble-mindedness, moronism, and abnormal sexuality, as well as other forms of defectiveness and degeneracy could be eliminated (L. K. Sadler).

As Galton early pointed out and as Lenz has more recently urged, there is something even more important from the eugenic standpoint than the direct fight to reduce the fecundity of those who transmit inheritable diseases or defects and that is the *campaign for the greater multiplication of the more fit*, of those whose sex cells contain the genotypic factors that form the hereditary basis for the development of superior qualities, an aristogenic campaign in the sense of C. W. Crampton. How can the tendency to die out shown by families with the best kinds of inheritance be lessened? Certainly every practical means at our disposal should be made use of to combat this tendency. The Dutch eugenicist, J. Sanders, recognizing the great importance for every population of the increase of the inborn special aptitudes that make for superior intelligence

and for excellence in scientific, artistic and technical domains and of environments that will give the hereditarily gifted the best opportunities to develop their talents has recently made a whole series of recommendations, some of them practical, some of them either premature, or, in this country at least, wholly impractical. Most will agree with him, however, that certain of the more important measures advocated could be put into immediate operation. Among these may be mentioned (1) propaganda on a large scale (literature, lectures, the stage, the movies, the radio) to make the essence and aim of eugenics better known; (2) arrangements for more teaching of eugenics and genetics in educational institutions; and (3) provision for funds for increase of scientific research on eugenics in local, national and international institutes. In how far the education of gifted children can be accelerated through action of the state to prevent hampering by financial or other difficulties, or in how far governments may be expected to reform systems of taxation in the interest of eugenic principles are questions that I, myself, find difficult to answer, though Sanders is of the opinion that both these measures also should be put to the test.

Something can probably be accomplished by direct appeals to single intelligent young persons of good racial stock. These young persons of deeper insight should be taught how to lead lives that are best calculated to favor racial as well as personal welfare. They must be urged to protect themselves from all influences that could be injurious to the germ cells that they carry. They should be advised to *marry early*, if possible, making sure too that eugenical considerations are not overlooked in the selection of their marital partners. And, after marriage, they should plan to have four or more children, realizing that the birth of two children or less will not suffice to secure the perpetuation of a desirable family strain (H. F. Osborn). I have been interested to note in the present generation of young people a general tendency of superior youth to marry earlier than in my generation. To cite a single example, I may mention a colony of young physicians and surgeons and their families settled in several little streets about the Johns Hopkins Hospital. Some of the men are internes or junior assistants who

have found young women who were willing to marry them and to begin the rearing of families on means much smaller on the average, than we thought necessary for marriage thirty years ago. They seem to constitute a very happy group and I cannot help but feel that they have been wise in their decisions. If, as I am told is the case, earlier marriages are occurring more often among college men and women elsewhere also, the members of the present generation of young people may be contributing significantly to eugenic welfare. If the graduates of our colleges for women will also marry in larger numbers and will no longer be content, as they have been, to average less than one child per marriage, still more will be done gradually to increase the numbers of the gifted and to decrease the numbers of the feeble-minded, the crippled, the criminal and other handicapped types, which through the lethargy and general indifference of the public have come to be accepted as unavoidable evils. Let our young women of higher education as well as our college men respond to the slogan "not more but better Americans," for as H. F. Osborn urges, "quality rather than quantity is the essential element of progress in every country and in every race."

Society is in duty bound to protect itself by all sensible methods against the continuance of avoidable blunders of hereditary transmission. History teaches that one of the chief causes of the decline and fall of nations has been deterioration of the national stock. If we wish America to survive and to continue to prosper we must *breed good Americans*; there is every reason therefore for awakening the sense of individual moral responsibility and for quickening eugenic consciousness among our young people early in their lives, not later than the high school period. We must try in this country to promote, as eugenists are attempting to do in Norway, a development of morality that will lead citizens "to abstain voluntarily from the worst of all forms of liberty—the liberty to bestow life upon incompetent offspring." It is exceedingly important, therefore, that before marriages are entered upon there should be some mutual knowledge of family history on the part of those who are proposing to marry (C. B. Davenport). If all could learn that "the responsibility for giving life



to a human being may weigh just as heavy as responsibility for causing the death of a human being" (J. A. Mjoen), much benefit to the race would accrue. It is appalling that in the United States "families that send a child to an institution for feeble-mindedness average twice as many as those who send a child to the university" (J. H. Landman). If the estimates of the Human Betterment Foundation are anywhere near correct when they declare that the number of insane and mental defectives alone exceed 18,000,000 persons in the United States, it is high time that every serious minded citizen should give more attention to a situation that is so threatening to the future welfare of our people.

But perhaps I have been painting too optimistic a picture of what eugenical efforts could accomplish. While all can see how desirable it is that the superior elements of our population should undergo steady proportional increase rather than decrease, I am, in reality, not so confident as some of the more enthusiastic eugenists are that radical and speedy change can actually be brought about. We cannot breed human beings as we can vegetables and fruits. By special means, man can intervene in the development of varieties of the latter until a good combination of hereditary factors (genes) has been obtained, after which that combination can be preserved and caused to multiply without change; Oregon Spitzenburg apples, Concord grapes, casawba melons, and the choicest varieties of tomatoes and cabbages can be produced in enormous numbers at will of the grower. But in higher animals, including man, no combination of genes can be permanent; the combination is necessarily unique in each individual (with the exception of identical twins). Though in the long run, a great series of superior human parents will, doubtless, produce offspring of higher average abilities than the offspring of an equally large series of inferior parents, it is also true that, because of the continual change in the combinations of genes, the descendants of superior parents will include some who are superior, some who are of medium ability and some who are inferior, and the same is true of the descendants of parents who belong in the inferior groups. Reproduction in man is biparental, not uniparental as it can be made to be in superior varieties

of fruits and flowers. Even if it were possible to devise a method by means of which an adult human being of superior type could propagate offspring that would receive the same combination of genes with which he started, it is very doubtful whether the race as a whole would, in the long run, be benefited; Nature's method by which diversity of the human product is unavoidable may, in reality, be on the whole more desirable than uniformity and constancy of type. In this connection I may quote the words of the distinguished biologist, H. S. Jennings, who says that no matter what eugenic measures are attempted, "so long as biparental inheritance is kept up, the variety, the surprises, the perplexities, the melodrama, that now present themselves among the fruits of the human vine will continue. Capitalists will continue to produce artists, poets, socialists and labourers; labouring men will give birth to capitalists, to philosophers, to men of science; fools will produce wise men and wise men will produce fools; who mounts will fall, who falls will mount; and all the kinds of problems presented to society by the turns of the invisible wheel will remain. They may be softened by improvement of conditions, by increase of knowledge, and perhaps by selective eugenics; but they will not disappear so long as biparental reproduction continues."

I must now bring these lectures to a close. They will, I fear, be somewhat disappointing to over-enthusiastic eugenists, on the one hand, and to those who think environment can perform more miracles than are possible, on the other. But we must face the facts; it is certain that the limits set by heredity of man cannot be transcended; and it is equally certain that ameliorative environments cannot wholly overcome poverty of potentiality in germ plasm. Physicians in general practice are among the main guardians of the health and happiness of our citizens. They, better than most, are familiar with the dangers of environmental situations and with the significance of good and bad inheritance. They thus have special opportunities for leadership in matters that concern the hygiene of single persons, of families and of the race. As medical men we must, therefore, push steadily onward, doing our best to favor the multiplication of those of superior endowment and to diminish exposure to harmful

surroundings. By these activities our profession can always be of effective service in preventing some of the conditions that handicap and in ameliorating much of the suffering and disability of the unfortunate.

### Selected References

- ADAMIC, L.: Thirty million new Americans. *Harper's Mag.*, 169:684-694, 1934.
- ALDRICH, C. A.: Growth and development: The vitamins and growth. *Jour. Pediatrics*, 4:120-143, 1934.
- ANDERSON, E. D.: The family and the handicapped child. *Hygeia*, 12:308-311, 1934.
- BAUER, J.: Constitutional principles in clinical medicine. *Harvey Lectures*, New York, series 28, 37-55, 1932-3.
- BAUR, E., FISCHER, E., and LENZ, F.: Human heredity; translation by E. and C. Paul, New York, 734 pp., 1931.
- BERK, A., LANE, L., and TANDY, M. C.: Personality study of 100 patients of habit clinic children. *Bull. Mass. Dept. Mental Dis.*, 17:2-39, 1933.
- BRANDT, G.: Ueber die Bedeutung der erbbiologischen Bedingtheit für die Orthopädie. *Med. Klin.*, 30:41-43, 1934.
- BROMLEY, D. B.: Birth control; its use and misuse. New York, 304 pp., 1934.
- BROWN, A., and TISDALL, S. F.: Effect of vitamins and inorganic elements on the growth and resistance to disease in children. *Ann. Int. Med.*, 7:342-352, 1933.
- BULLER, G.: Citizenship and the care of cripples. *Jour. State Med.*, 42:188-196, 1934.
- CASTLE, W. E.: Gene theory in relation to blending inheritance. *Proc. Nat. Acad. Sc.*, 19:1011-1015, 1933.
- CONKLIN, E. G.: Heredity and environment in the development of men. Last edition. Princeton, N. J.
- DAVENPORT, C. B., and others: A decade of progress in eugenics. *Scientific papers of the Third International Congress of Eugenics*, Baltimore, 531, pp., 1934.
- DIEHL, K.: Significance of heredity and constitution for tuberculosis. *Ergebn. d. ges. Tuberk.*, 3:137-222, 1931.
- FEIGENBAUM, J., and HOWAT, D.: The relation between physical constitution and the incidence of disease. *Jour. Clin. Investigation*, 13:121-138, 1934.
- FISCHEL, M. K.: The spastic child; a record of successfully achieved muscle control in Little's disease. *St. Louis*, 97 pp., 1934.
- FREEMAN, W.: Human constitution, a study of the correlation between physical aspects of the body and susceptibility to certain diseases. *Ann. Int. Med.*, 7:805-811, 1934.
- GARLAND, J.: The road to adolescence. Cambridge, 293 pp., 1934.
- GLUECK, S., and GLUECK, E. T.: One thousand juvenile delinquents. Cambridge, 362 pp., 1934. (See also critique by Eklund and Taylor in *Ment. Hyg.*, 18:531-552, 1934.)
- HOBGEN, L.: Nature and nurture. New York, 144 pp., 1934.
- HORDER, LORD: Eugenics and the doctor. *Brit. Med. Jour.*, 2:1057-1060, 1933.
- HOSKINS, R. G.: The tides of life; the endocrine glands in bodily adjustments. New York, 352 pp., 1933.
- JENNINGS, H. S.: Prometheus, or biology and the advancement of man. New York, 86 pp., 1925.
- JENNINGS, H. S.: The biological basis of human nature. New York, 384 pp., 1930.
- MOHR, O. L.: Heredity and disease. New York, 253 pp., 1934.
- MORGAN, T. H.: Embryology and genetics. New York, 265 pp., 1934.
- NEWMAN, H. H.: The effects of heredity and environmental differences upon human personality as revealed by studies of twins. *Amer. Naturalist*, 67:193-205, 1933.
- PEARL, R., and PEARL, R. DeW.: The ancestry of the long-lived. Baltimore, 168 pp., 1934.
- PENDE, N.: Constitutional inadequacies. Philadelphia, 270 pp., 1928.
- PENROSE, L. S.: The influence of heredity on disease. London, 80 pp., 1934.
- RUDIN, E., and others: *Erblehre und Rassenhygiene im völkischen Staat*. Munich, 1934.
- SALLER, K.: Einführung in die menschliche Erblchkeitslehre und Eugenik. Berlin, 307 pp., 1932.
- SCARBOROUGH, KATHERINE: A chance for handicapped children; William S. Baer School provides physical and mental training. *Baltimore Sun*, Magazine section, pp. 3-5, (Dec. 2) 1934.
- SCHLESINGER, E.: Das Konstitutionsproblem im Kindesalter und bei den Jugendlichen. *Ergebn. d. inn. Med.*, 45:79-128, 1933.
- SCHWEISINGER, G. C.: Heredity and environment; studies in the genesis of psychological characteristics. New York, 484 pp., 1933.
- SIEGEL, M.: Constructive eugenics and rational marriage. Toronto, 196 pp., 1934.
- SIEMENS, H. S.: Die Krisis der Konstitutionspathologie. München. med. Wchnschr., 81:515-520, 1934.
- STOCKARD, C. R.: The physical basis of personality. New York, 320 pp., 1931.
- TIMME, W.: Endocrine aspects of constitution. *Proc. Assoc. for Research in Nerv. and Ment. Dis.*, 14:91-121, 1933.
- WEINSTEIN, A.: Palamedes. *Amer. Naturalist*, 67:222-263, 1933.
- WIRES, EMILY M.: Adjusting the defective child. *Ment. Hyg.*, 18:638-644, 1934.



INTESTINAL FISTULA\*

HENRY K. RANSOM, M.D.,† and FREDERICK A. COLLER, M.D.‡  
ANN ARBOR, MICHIGAN

Intestinal fistulæ are of two main types: (1) internal, and (2) external. In the former a communication exists between one portion of the intestinal tract and another or between the intestine and some other hollow viscus, as for example, the gallbladder or stomach. In the external fistulæ, the communication is with the surface of the body. These fistulæ may be either direct, in which case the intestinal mucous membrane grows outward to join the skin, or indirect, when a channel or tract lined by granulation tissue connects the opening in the intestine with the body surface. A variation of the latter is the case in which there is an intermediate abscess cavity through which the intestinal discharge must pass in escaping from the bowel. The abscess is thereby perpetuated and proper and satisfactory drainage of it becomes an important factor in the successful treatment of the fistula.

Intestinal fistulæ may develop as the result of severe infections of the intestinal tract with resulting perforation such as may occur in acute suppurative appendicitis with secondary necrosis of the intestinal wall, in typhoid ulcers of the small intestine, or in diverticulitis of the sigmoid; from involvement of the bowel by specific infections as tuberculosis or actinomycosis; occasionally from malignant disease; and not infrequently as a postoperative complication of intra-abdominal surgical procedures when leakage occurs at a suture line or when the bowel wall or its blood supply have been damaged. Occasionally a fistula is the sequel of an abdominal injury, especially when there has been a penetrating wound.

In the present paper, we wish to consider in detail the external intestinal fistulæ. As the basis for this study, the records of ninety-four cases observed or treated in the University Hospital during the nine-year period from July 1, 1925 to July 1, 1934, have been reviewed and analyzed. Cases in which an artificial anus had been intentionally produced by a surgical operation as well as the recto-vaginal and entero-vesical fistulæ were purposely excluded.

In the group studied, ten patients were only observed in the Out-Patient clinic and

TABLE I. EXTERNAL INTESTINAL FISTULÆ  
(July 1, 1925–July 1, 1934)

Observed but not treated.....	10
Treated without operation.....	28
Treated by surgical operation.....	56
	94

necessarily in some of them complete data were not available. Twenty-eight of the patients were treated by non-operative methods while surgical intervention was required for closure in the remaining fifty-six cases (Table I). In twenty-eight of the ninety-four cases, the fistula developed as a postoperative complication in patients undergoing treatment in the hospital. In three of these cases, the fistula appeared a short time prior to death in patients who had extensive abdominal sepsis or who had had palliative operations performed for far advanced malignancy of the digestive tract. In them problems of treatment scarcely arose and the fistulæ played no important part in the fatal outcome. In the management of the remaining twenty-five hospital patients, seven died, six had spontaneous closure, while operative procedure was required in nine and in the remaining three closure was proceeding spontaneously in a satisfactory manner at the time of discharge from the hospital.

Anatomic Location

While an intestinal fistula may involve any portion of the intestinal tract, the great majority occur in the lower ileum or colon. In Table II are shown the locations of the fistulæ in the seventy-four cases in which this fact could be determined with certainty.

A complete fistula in the colon or the terminal ileum is not incompatible with life and health or even comfort since the fecal

\*From the Department of Surgery, University of Michigan. Read before the Surgical Section of the meeting of the Michigan State Medical Society, Battle Creek, Michigan, September 13, 1934.  
†Dr. Henry K. Ransom, Michigan, 1923, is Associate Professor of Surgery, University of Michigan.  
‡Dr. Frederick A. Coller, Harvard, 1912, is Professor of Surgery and Director, Department of Surgery, University of Michigan.

TABLE II. ANATOMIC LOCATION

Duodenum .....	3
Jejunum .....	1
Ileum .....	34
Cecum .....	11
Ascending colon .....	3
Transverse Colon .....	3
Descending colon .....	3
Sigmoid .....	12
Multiple .....	4
Duodenum and hepatic flexure.....	1
Ileum and cecum.....	2
Ileum and sigmoid.....	1
Site undetermined .....	30
	<hr/> 94

stream at this level is semi-solid in character and the intestinal juices do not have an especially inimical effect upon the skin. There seems to be some individual variation in this regard where the terminal ileum is concerned in different patients, inasmuch as some experience little disturbance from an ileostomy whereas others suffer from varying degrees of skin irritation. It is probably true that in time the ileum tends to become dilated and thus it takes over some of the functions of the large bowel, the result being less frequent and less watery movements. The fistulæ situated high up in the small intestine seriously impair health and nutrition and may cause death from inanition and dehydration due to the rapid and extreme losses of intestinal contents or from infection and exhaustion on account of the severe digestion of the skin about the mouth of the fistula.

### Duodenal Fistulæ

Duodenal fistulæ usually result from the perforation of an ulcer, from penetrating abdominal wounds or injuries to the duodenum at the time of operation, most commonly during those operations performed upon the biliary tract, stomach or the right kidney. These fistulæ are generally acknowledged to be among the most dreaded complications of abdominal surgery and present the most difficult problems in their management.

As will be noted from Table II there were four instances of duodenal fistula in the present series, all of them following operations in the upper quadrants of the abdomen. The one instance of successful treatment (Case 4, Table III) occurred when the fistula developed from the stump of the duodenum after a Polya resection of the stomach. Fortunately in such a case the loss of duodenal contents is only partial

TABLE III. DUODENAL FISTULÆ

1. Cholecystectomy elsewhere, followed by multiple fistulæ (duodenum and hepatic flexure)—jejunostomy—Death.
2. Plastic reconstruction of common duct with duodenotomy—leakage at suture line—no operation—death.
3. Cholecystostomy for carcinoma of gall bladder with stones—duodenal fistula from neoplastic invasion of duodenal wall—no operation—death.
4. Polya resection for carcinoma of stomach—duodenal fistula evidently due to leakage at stump of duodenum—treated by constant suction—spontaneous closure in nineteen days.

and with a gastroenterostomy already established, nutrition may be maintained until spontaneous closure has taken place. In these fistulæ, the use of constant aspiration for the removal of the discharges is of inestimable value in the prevention of skin digestion and infection. In some cases good results may be obtained from the local use of dressings of beef broth or peptone solution and hydrochloric acid, which preparations tend to neutralize the proteolytic enzymes and thus afford protection to the skin.

In addition to the use of a constant suction apparatus for the removal of irritating substances, thus promoting healing, it frequently becomes necessary to resort to jejunostomy in order that the duodenum may be put at complete rest and to provide for feeding and the maintenance of an adequate fluid intake. Some authors advocate gastroenterostomy with occlusion of the pylorus or complete pyloric exclusion by the Devine operation. We have not had experience in the use of either of these latter procedures as they have seemed unduly radical for such critically ill patients.

The one instance of a jejunal fistula occurred in a young woman of twenty-three who had been operated upon elsewhere six months prior to admission. At that time a bilateral salpingo-oophorectomy had been done and shortly thereafter an enterostomy had been required for the relief of acute intestinal obstruction. This had failed to close and at the time of her admission there was considerable skin irritation which was controlled by suction and her general condition was improved by transfusion. Operation was performed and the jejunal fistula closed. Her postoperative convalescence was uneventful and she was discharged cured two weeks later. In this single case of jejunal fistula the management and treatment did not differ materially from that employed in the remaining fistulæ situated



lower down in the intestinal tract and hence it has been grouped with them for further discussion.

These remaining cases may be conveniently considered from the standpoint of etiology. A very satisfactory although quite arbitrary classification of the fistulæ is given in Table IV.

TABLE IV. CLASSIFICATION ACCORDING TO ETIOLOGY

I	Fistulæ associated with appendicitis..	30 = 32%
II	Fistulæ occurring as a postoperative complication .....	48 = 51%
III	Fistulæ due to chronic infectious granulomata .....	14 = 15%
IV	Fistulæ due to trauma.....	2 = 2%
		94 = 100%

Fistula Associated with Appendicitis

In this group there were thirty cases in which the fecal fistula clearly developed following operation upon the appendix. Of these thirty cases, eight occurred in patients who had been operated upon for appendicitis in the hospital (Table V). In all of these eight cases the infection had extended beyond the appendix and there was either a local abscess or a more general peritonitis.

TABLE V. FISTULÆ ASSOCIATED WITH APPENDICITIS  
(30 cases = 32%)

Developed in hospital.....	8
Closed spontaneously .....	2
Surgical closure.....	3
Died (one during operative closure).....	3
Admitted with fistula.....	22
Not treated.....	5
Closed spontaneously.....	1
Treated by operation.....	16
Cured .....	12
Died .....	2
Recurrence .....	1
Improved with subsequent spontane- ous closure .....	1
	<hr/> 30

That the incidence of fecal fistula following operation for appendicitis is low is shown from the fact that during the nine-year period under consideration when these eight fistulæ developed, there were 234 cases of acute appendicitis with abscess or more or less generalized peritonitis which required drainage at the time of operation. The incidence of fecal fistula in these drained cases was therefore only 3.4 per cent while the total number of operations for acute appendicitis with and without

perforation was 1,067, giving an incidence of fistulæ in only 0.8 per cent.

Of the eight hospital cases, two (25 per cent) closed spontaneously under conservative treatment. Three required subsequent operative closure and three died, one of the deaths occurring on the operating table during operative closure of the fistula, undoubtedly an anesthetic death. While it is impossible to draw conclusions from this very small group of hospital cases, the experience of others has shown that the fistulæ associated with appendicitis tend to heal without assistance and in the absence of complicating factors, operation should be advised only following a prolonged trial of conservative treatment.

Of the twenty-two cases admitted to the hospital with fecal fistulæ in which the appendectomy had been performed elsewhere, there was a definite statement that drainage had been employed in nine of the cases; in three the matter of drainage at the time of the original operation was somewhat uncertain but it is reasonable to assume that in all the wounds had been drained. None of the records contained a definite statement that the wound had been closed tight without drainage. Since five of these twenty-two cases were only seen in the Out-Patient clinic, there were seventeen in which treatment of some form was instituted. Sixteen of these were treated by surgical operation and one treated conservatively with subsequent complete closure. Of the sixteen cases treated by operation, twelve were cured, two died, there was a recurrence in one, while the other case was considerably improved with final closure following discharge from the hospital.

The location of the fistulous opening in these twenty patients operated upon is shown in Table VI.

TABLE VI. ANATOMIC LOCATION OF FISTULÆ ASSOCIATED WITH APPENDICITIS

Terminal ileum.....	13
Cecum .....	4
Ileum and cecum.....	2
Sigmoid .....	1
Undetermined .....	10
	<hr/> 30

The mechanism of the production of fistulæ following appendectomy with drainage or simple drainage of an appendiceal abscess is of interest. Undoubtedly in many

of the cases there is an actual inflammatory involvement of the wall of the lower ileum or cecum with secondary necrosis and perforation. Another mode of development is the opening of the stump of the appendix and considerable discussion has arisen as to the relative merits and disadvantages of invagination of the appendiceal stump. It is our practice to invaginate the stump with a purse string suture of catgut whenever the condition of the cecum will permit such a suture to be placed. Probably in a certain few instances an unrelieved intestinal obstruction due to a "U" or Lane kink in the terminal ileum occurs and perforation of the bowel takes place just above the point of obstruction, perhaps in such cases a fortunate happening.

As stated above, the fistulæ associated with appendicitis show a tendency to spontaneous healing and this is particularly true in the case of the cecal fistulæ. Here the chief obstacle to spontaneous healing and the main factor in causing the fistula to become permanent is the outgrowth of the cecal mucous membrane so that it becomes continuous with the skin forming the direct or lip type of fistula. When this occurs it becomes necessary to interfere surgically before a closure can be effected. The fistulæ in the lower ileum associated with appendicitis show less tendency to heal spontaneously, are more apt to be complete, and are associated with more marked irritation of the skin and more copious watery discharge which may require careful and prolonged preparation before operation can be safely considered.

Postoperative Fistulæ

The postoperative fistulæ made up the largest single group, there being forty-eight such cases (51 per cent). Seven of these cases followed enterostomy or other operations for acute intestinal obstruction secondary to an appendectomy performed several months or more previously. They may be regarded therefore as indirectly due to appendicitis. Table VII lists the original operations following which the fecal fistulæ developed. Of these forty-two cases, seventeen developed as a terminal affair shortly prior to death, in patients with severe generalized peritonitis or advanced cancer of the stomach, and did not play a significant part in the final outcome. Disregarding these

TABLE VII. POSTOPERATIVE FISTULÆ

*Original operation:*

Operation for acute intestinal obstruction due to previous appendix operation.....	7
Biliary tract.....	6
Gynecologic operations (laparotomy).....	9
Gynecologic operations with subsequent enterostomy .....	5
Operation for strangulated hernia.....	3
Gastro-enterostomy .....	2
Ureteral transplant .....	2
Partial gastrectomy (polya).....	3
Enterostomy .....	4
Resection right colon.....	1
Nephrostomy and drainage perinephric abscess...	1
Drainage of abscess from sigmoid diverticulitis..	1
Resection of small intestine.....	1
Operation for intussusception.....	2
Exploratory laparotomy.....	1
	48

three terminal cases and the four instances of duodenal fistulæ which have already been discussed, as well as the five patients who were not treated, there are left for consideration thirty-six instances of postoperative fistula. Nine of these were treated conservatively without operation and twenty-seven required surgical intervention for a closure. Twenty-four of these twenty-seven patients were discharged cured, one died, and the remaining two required stage operations and the treatment is as yet incomplete. Of the nine cases treated without operation, three were cured, spontaneous closure of the fistula taking place, three died and three were discharged improved. These three patients were not heard from following their discharge so that the ultimate result is not known.

TABLE VIII. POSTOPERATIVE FISTULÆ  
(48 cases = 51%)

Fistula developed as a terminal complication....	3
Duodenal fistula.....	4
Not treated .....	5
Treated without operation.....	9
Cured .....	3
Died .....	3
Improved .....	3
Treated by operation.....	27
Cured .....	24
Incomplete (stage operations).....	2
Died .....	1
	48

In recent years the incidence of fistulæ following abdominal operations has decreased, perhaps due to the more careful and intelligent use of drainage. Drains of soft rubber and gutta percha have today largely replaced the glass and stiff rubber tubes of earlier times. Likewise, it is now a well established fact that the gauze tip of a cigar-



ette drain must not be allowed to rest against a suture line or an anastomosis where it is prone to favor leakage, but instead it should be placed a short distance away and the suture line protected when possible by the interposition of the omentum.

### Fistulæ Due to Chronic Infectious Granulomata

1. *Tuberculosis*.—Thirteen patients in the series had complicated fistulæ because of the presence of a tuberculous infection. Of these thirteen cases there was positive microscopic evidence of tuberculosis in the tissue removed at biopsy, operation or subsequently at autopsy in nine. In the remaining four the diagnosis of tuberculosis was presumptive in that there was no microscopic confirmation but with the abundant clinical evidence of tuberculosis at hand there seemed to be little doubt of the accuracy of the diagnosis. These four patients had tuberculous lesions elsewhere in the

TABLE IX. TUBERCULOUS FISTULÆ  
(13 cases = 14%)

Anatomic location of fistulæ:

Ileum .....	1
Cecum .....	6
Transverse colon.....	1
Descending colon.....	1
Sigmoid .....	1
Undetermined .....	3

13

body and the fistulæ showed the characteristic behaviour of tuberculous fistulæ, the skin about the mouth of the fistula having a very unhealthy appearance and no tendency to heal could be noted. Table IX shows the location of the opening in the bowel in these tuberculous cases. Of the thirteen cases, seven were treated conservatively and of these two died in the hospital, none was cured, and five remained unimproved or showed only slight improvement. The other six were operated upon and three died following operation, two were cured by operation and one was unimproved, the fistula promptly recurring. The case histories of these thirteen tuberculous fistulæ are interesting, in that six patients had had their appendices removed, this operation being followed by the fecal fistula. Undoubtedly there had been either an error in diagnosis, a tuberculous enterocolitis being mistaken for a lesion of the appendix, or an

TABLE X. RESULTS OF TREATMENT IN TUBERCULOUS FISTULÆ

Treated without operation.....	7
Died .....	2
Unimproved .....	5
Cured .....	0
Treated by operation.....	6
Died .....	3
Unimproved .....	1
Cured .....	2

13

acute pyogenic infection of the appendix had become superimposed upon an older tuberculous process. While it is true that two of the cases were cured by surgical operation, we believe that if a fecal fistula is unmistakably tuberculous, the best treatment is conservative since surgical intervention is so apt to result in failure. Moreover, our rule is that if upon opening the abdomen at any time a tuberculous lesion is found, no operation which requires opening the lumen of the intestine is to be performed since the suture line involved in the closure or in an anastomosis is prone to break down and the resulting fecal fistula is almost certain to be permanent. Probably a good many persistent fistulæ following appendectomy are actually due to an unsuspected tuberculous infection since in general the fistulæ associated with appendicitis tend to close of their own accord.

2. *Actinomycosis*.—Only one case in the series was due to an actinomycotic infection. This patient, a man of thirty-nine, was admitted with a right subphrenic abscess which was drained surgically. Subsequently a fecal fistula developed and the opening in the bowel was shown by barium enema studies to be in the ascending colon. A biopsy from the wound showed the characteristic colonies of actinomyces and no attempt at surgical closure of the fistula was made, the treatment consisting of potassium iodide internally, Roentgen irradiation and copper sulphate dressings. When last seen there was very slight improvement in the fistula. In all probability this was an actinomycotic infection of the right colon with perforation which was responsible for the subphrenic abscess and the external fistula later developed following the drainage of this abscess.

### Fistulæ Due to Trauma

There were only two cases in the series in which an abdominal injury was responsible

for the fistula. The first, a man of forty, was struck in the abdomen and an operation was performed shortly thereafter, at which time a rupture of the intestine was repaired. Leakage followed and the patient was admitted to the University Hospital seven months later. At the time of operation the fistulous opening was found to be in the ileum, a simple closure was made and the patient made an uneventful recovery.

The second traumatic case was that of a nine-year-old boy who had had a part of the abdominal wall blown away in an explosion. Peritonitis developed but no surgical operation was necessary. During the course of his long hospital stay, a fecal fistula developed which at the time of the operative closure by one of us (FAC) two years later, was found to be located in the ileum. A simple closure was made, the ventral hernia repaired, and he was discharged cured after an uncomplicated convalescence.

### Treatment

Any discussion of the management of intestinal fistulæ requires a consideration of the indications and requirements for operation, of preoperative preparation, and of technical procedures. For this purpose, the following classification proposed by Lewis and Penick<sup>1</sup> is of assistance.

I. *Tubular Fistulæ*.—This group includes the indirect fistulæ, which communicate with the body surface by means of a tract lined with granulation tissue. In general this is the most favorable type of fistula for non-operative treatment, since, as Lewis and Penick point out, the longer and the more tortuous the fistulous tract, the greater is the likelihood of spontaneous closure.

II. *Lip Fistulæ*.—In this group are included those direct fistulæ in which the intestinal mucous membrane has become continuous with the skin. Here the indications for surgical treatment are clear, inasmuch as such a fistula cannot close spontaneously, although the opening may diminish in size, as the scar tissue about its edges undergoes contraction.

III. *Complicated Fistulæ*.—In this group belong those fistulæ due to or made permanent by neoplasm, chronic granuloma, or foreign body, as well as those in which anatomic peculiarities, such as herniation, spur formation or evagination of the bowel, prevent spontaneous closure. Likewise, cases

in which obstruction exists distal to the fistula are included in this group. In such cases, it is quite obvious that no form of treatment can succeed until the cause of the persistent obstruction has been removed. Hence it is highly important that any of these complicating factors should be recognized early, since in such instances the plan of treatment must be so designed as to deal with them. For example, careful biopsies taken from the fistulous tract, or the mouth of the fistula, are necessary when neoplasm, tuberculosis or actinomycosis are suspected, while roentgenologic studies by means of the barium meal or enema may reveal the presence of obstructive lesions, and will usually give information regarding the exact location of the opening in the bowel, the existence of multiple openings, et cetera. Frequently, injection of the fistula with lipiodol is of value, especially when done in conjunction with the barium enema.

*Preoperative Preparation*.—Mention has already been made of some of the methods employed in the preparation of the skin prior to surgical operation in the case of the high intestinal fistulæ. A vast number of medicinal substances such as olive oil, vaseline, zinc oxide, iodoform, glue and many others have been recommended for local application. An intriguing suggestion was made in 1927 by Caryl Potter,<sup>2</sup> who advocated dressings of tenth normal hydrochloric acid and beef broth mixed with olive oil. The acid serves to neutralize the alkaline intestinal secretion, while the protein splinting enzymes of the pancreatic juice exert their action upon the readily available beef broth.

We have come to believe that most important of all is scrupulous cleanliness along with exposure of the skin in a warm, dry atmosphere. This can best be accomplished by abandoning all forms of local dressings, and in their stead the use of constant suction during the day time, with resort to the use of an anterior Bradford frame at night as described by E. B. Potter.<sup>3</sup>

In a certain few of the small intestinal fistulæ, particularly those situated in the upper ileum or jejunum, in spite of any of the methods employed, we have found it impossible to greatly improve the condition of the skin, at least sufficient for operation to be made possible. In such cases where operative closure is out of the question, a

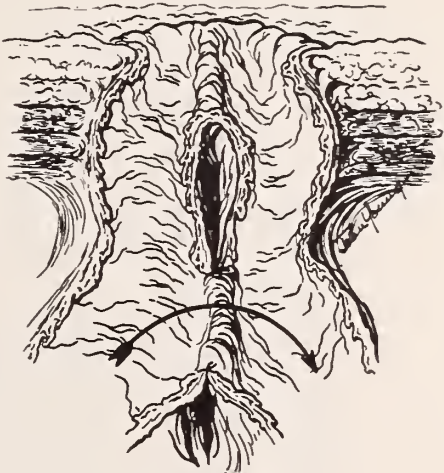


method which has been found helpful is illustrated in Figures 1 and 2. Since the fistulous opening is usually situated on one side of the abdomen, usually the left, an in-

cision is made at or near the midline, going through healthy tissue. Upon careful abdominal exploration, the operator is able to demonstrate that no obstruction exists distal to the opening, whereupon a lateral anastomosis is then made between the two arms of the intestine leading to and from the fistula, and the abdominal incision closed. When the anastomosis has become sufficiently strong, the fistulous opening is plugged with gauze and protected with a snug dressing. By this method the skin usually heals rapidly and subsequently the opening in the intestine can be dissected out, the scar excised, and a closure made.



Fig. 1 (left) and Fig. 2 (right).



cision is made at or near the midline, going through healthy tissue. Upon careful abdominal exploration, the operator is able to demonstrate that no obstruction exists distal to the opening, whereupon a lateral anastomosis is then made between the two arms of the intestine leading to and from the fistula, and the abdominal incision closed. When the anastomosis has become sufficiently strong, the fistulous opening is plugged with gauze and protected with a snug dressing. By this method the skin usually heals rapidly and subsequently the opening in the intestine can be dissected out, the scar excised, and a closure made.

TABLE XI. SUMMARY OF SURGICAL TREATMENT

<i>Operations performed:</i>	
Simple closure .....	28
Resection of ileum.....	8
Closure and enterostomy.....	4
Colostomy (temporary).....	5
Resection ileum and cecum.....	2
Partial colectomy.....	5
Enteroenterostomy and closure.....	2
Jejunostomy .....	1
Colocolostomy .....	1
<hr/>	
56	

8 operative deaths = operative mortality of 14%  
43 patients cured by operation = 77% cures

Table XI summarizes the various operative procedures required in the fifty-six cases treated surgically. As will be noted,

half of the cases were the more complicated procedures found necessary. In the surgical treatment of fecal fistula, no set rule can be laid down with reference to the operation of choice. It is frequently the case that it is impossible to determine the proper procedure until the abdomen has been opened and the exact state of affairs observed. Hence, in dealing with these lesions, the resourcefulness of the surgeon is constantly taxed, since frequently an operation which promises to be a relatively simple procedure may suddenly become one of exceptional magnitude.

In the sigmoidal fistulae where the bowel opening lies deep in the pelvis and is associated with a pelvic abscess, temporary colostomy may be not only a life saving measure, by ending the constant reinfection and thus allowing the pelvic inflammation to subside, but, moreover, by putting the lower bowel segment at complete rest, will permit healing to take place. Roentgenologic studies may later be made at intervals, and only when these studies no longer show evidence of the fistula, the colostomy is closed. This is a very tedious and time-consuming form of treatment for the patient but in the type of case in which it becomes necessary, the marked general improvement from an alarmingly septic condition to normal health, with ultimate cure of the fistula, makes its employment well worth while.

### End-Results

Table XII indicates the results of treatment in the entire series. While the operative mortality of 14 per cent is high, the fact that 77 per cent of the patients treated by operation were completely cured is encouraging. It is probable that in the future, with the general employment of a meticulous preoperative régime, such as the one now commonly used for patients who are to undergo colonic resections, this mortality may be appreciably lowered. One of the most promising recent developments along this line is the intraperitoneal injection of a colon bacillus, or colon bacillus and streptococcus vaccine, as described by Rankin<sup>4, 5</sup> and Steinberg.<sup>6, 7</sup>

The contrasting small percentage of cures and considerably higher mortality among those patients treated without operation, should not be taken to mean that had operation been performed, some lives might have been saved. The indications for surgical and for non-operative treatment are quite definite and very seldom is it a matter of choice between the two for either surgeon or patient.

It should also be emphasized that many of those patients who were treated conservatively and who died, died with their fistulæ

TABLE XII. END-RESULTS

Cured .....	49 = 58%
Improved .....	8
Died .....	20 = 23%
Incomplete .....	2
Unimproved .....	2
Unknown .....	2
Not treated.....	10
	<hr/> 94

12 patients treated conservatively died = mortality of 43%

7 patients treated conservatively were cured = 25% cures

and not from them; the cause of death usually being the primary lesion which was in part at least responsible for the fistula. Thus many of these deaths were due to inoperable malignancy, extensive infection or other more remote sequelæ.

### Bibliography

1. Lewis, Dean and Penick, Rawley, M. Jr.: Fecal fistulæ. *Internat. Clin.*, 1:111-130, (March) 1933.
2. Potter, Caryl: *Jour. A. M. A.*, 88: No. 12, (March) 1927.
3. Potter, E. B.: Intestinal fistulæ: A method for preventing digestion of the skin. *Ann. Surg.*, 95:700-703, (May) 1932.
4. Rankin, F. W., and Bargen, J. A.: Carcinoma of the cecum (intraperitoneal vaccination). *Arch. Surg.*, 19: 906-914, 1929.
5. Idem: Vaccination against peritonitis in surgery of the colon. *Arch. Surg.*, 22:98-105, 1931.
6. Steinberg, B.: A rapid method of protecting the peritoneum against peritonitis. *Arch. Surg.*, 24:308-317, 1932.
7. Idem: Active immunization methods against acute diffuse peritonitis. *Amer. Jour. Clin. Path.*, 2:187-197, 1932.

## THE SOURCE AND PRODUCTION OF STERILE SURGICAL MAGGOTS\*

J. G. MOLNER, A.B.† and F. O. ADAMS, B.S.‡

DETROIT, MICHIGAN

The clinical use of sterile maggots, introduced to surgery in 1929 by W. S. Baer, has attained a definite place in the treatment of chronic osteomyelitis, tuberculous abscess and other chronic inflammatory conditions. Since its first announcement, the Baer method of treatment has attracted the attention of orthopedic and general surgeons in the United States and in other countries. During the past three years the maggot treatment, especially in cases of chronic osteomyelitis, has enjoyed an increasing popularity.

To furnish the maggots necessary for this form of treatment, it is essential that they be available in very large numbers throughout the year. In order that maggots may be supplied to the surgeons in Detroit, the Laboratory of the Department of Health

\*From the Laboratory, Detroit Department of Health.

†J. G. Molner, A.B., 1931, College of the City of Detroit, is Bacteriologist with the Detroit Department of Health, Senior medical student at the Wayne University, College of Medicine, and Assistant in the departments of Histology-Embryology and Public Health.

‡Fred O. Adams, B.S., 1915 Michigan State College, is Assistant Director Detroit Department of Health Laboratories.

began in the summer of 1933 to collect and raise the parent flies. On the suggestion of the United States Bureau of Entomology, the species *Lucilia Sericata*, more commonly known as the blowfly, has been selected. The larvæ of this species have been found to give the most favorable therapeutic results, and under favorable conditions there are no serious difficulties en-



countered in rearing this species throughout the year. The flies and larvæ are adaptable to fairly wide ranges of temperature and humidity, although the most favorable con-

supply the essential elements for maintenance of life, consists of 450 gms. of cane sugar, 30 gms. of egg yolk, and 3 gms. of brewer's yeast. These ingredients are thor-

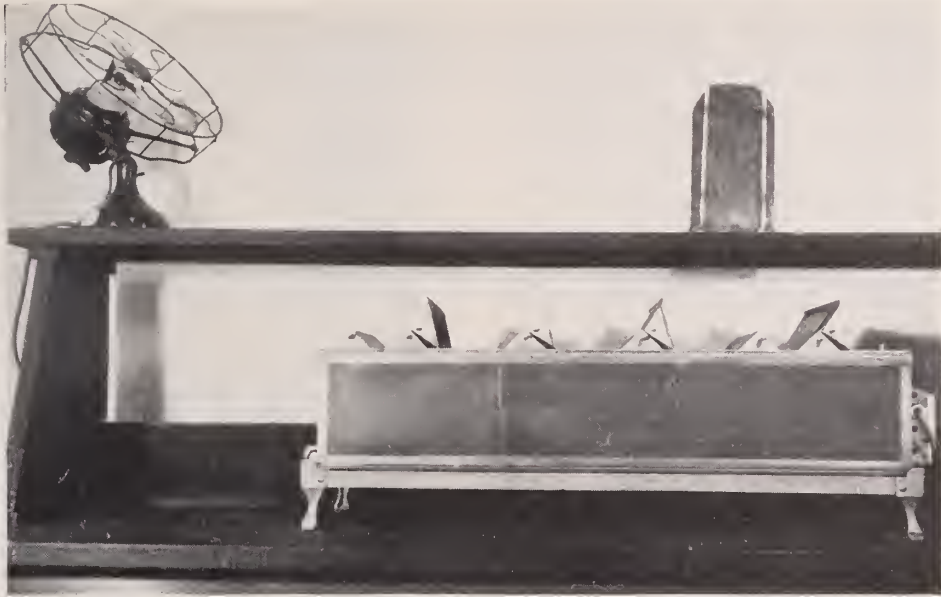


Fig. 1.

ditions are a temperature between 75° and 85° F., and a relative humidity between 50 and 60 per cent.

To provide favorable conditions for the production of maggots, a well lighted room is set aside as the "fly room." The temperature and humidity of this room are kept constant by means of two large baths filled with water kept at a temperature of 90° F. by means of thermostats. The water evaporating from the baths is sufficient to maintain the desired humidity under ordinary weather conditions. When marked lowering of outdoor temperature occurs, the steam radiators and running hot water are utilized to bring about the required conditions. A large electric fan which runs continuously keeps the air in the room in a state of constant circulation (Fig. 1).

The fly cages are of wooden frame type with solid bases, and measure 18 inches in all dimensions. The frame work is covered with surgical gauze and may be easily changed when soiled (Fig. 2). A sleeve with a purse string on one side of the cage facilitates the placing of food into the cage as well as the introduction and removal of the flies and eggs. In these cages from 100 to 150 flies may be kept.

The food, a balanced mixture adequate to



Fig. 2.

oughly mixed and a small quantity is placed in a small evaporating dish or Petri dish in each cage. The water is provided by inverting a 150 c.c. round mouth bottle into a Syracuse watch-glass over a small pad of gauze. The water absorbed by the gauze pad is sufficient to supply the needs of the flies. A fountain of this type prevents the loss of flies by drowning (Fig. 2).

The life cycle of the fly is represented by

the following stages: egg, larva or maggot, pupa and fly. The eggs are curved, white, glistening cylindrical objects, slightly tapered at each end, measuring approximately

pupal shells. Each female will lay approximately 500 eggs per week and the optimum egg-laying period extends over five to six weeks. To collect these eggs, lean

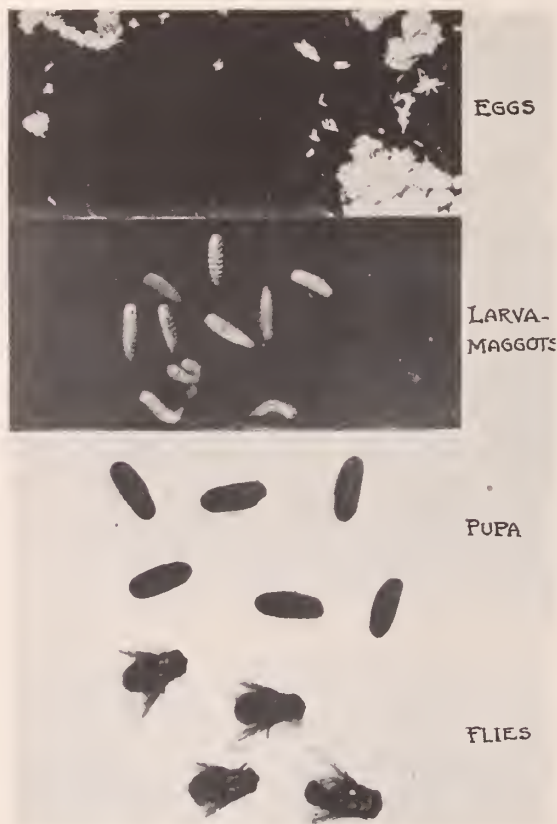


Fig. 3.

1.1 mm. in length and 0.2 mm. in diameter. One thousand of these eggs weigh approximately 100 mgms. Hatching of the eggs will take place in from 8 to 24 hours at a temperature of about 80° F. When first hatched the larvæ or maggots are no larger than the eggs but, when well fed and housed in a dark place, they grow rapidly and attain the pre-pupal stage in from five to seven days. At this stage the maggots cease feeding and wander about, seeking a dry secluded spot where they may pupate. Pupation takes place by the outer tegument of the larvæ undergoing a hardening and a change in color from a pinkish-grey to a dark brown. The stage of puparium lasts from 7 to 10 days. Under suitable atmospheric conditions the stage of puparium ends by the young fly emerging from its pupal shell (Fig. 3).

Female flies begin to lay their eggs within five to seven days after emerging from their



Fig. 4.

raw beef in portions about 2 inches square and one-half inch thick are placed in small Petri dishes padded with moistened filter paper. These are set in the fly cages containing from 100 to 150 flies. After six to eight hours each cage will contain several thousand eggs which will be found deposited in crevices in the pieces of meat. By means of a scalpel the eggs may be removed in masses. These masses are weighed and each 100 mgms., representing 1,000 potential maggots, is handled separately. For therapeutic purposes it is customary to distribute maggots in lots of 1,000.

To sterilize the maggots, the individual masses of eggs are placed in sterile Petri dishes between two pieces of No. 42 filter paper, and 3 c.c. of 1 per cent formalin solution is poured over them. The dishes containing the eggs and formalin are then placed in the refrigerator for forty-eight to



seventy-two hours. Chilling of the eggs prevents hatching and if not continued over seventy-two hours does not destroy their viability. Indeed, such chilling enhances the separation of the eggs from each other because of its softening effect on the chitin-like substance which holds them together. These partly separated eggs are further broken apart by gentle pressure and slight rotation by means of the tips of the fingers. All small clumps must be broken up; otherwise, complete sterilization will not be possible.

After the eggs have been completely separated from each other they are placed in a sterile test tube and rinsed twice with 20 to 30 c.c. of sterile distilled water. With the separation of the eggs and the washing, the preliminary steps of sterilization have been completed. The eggs are next transferred to another sterile test tube containing the sterilizing solution. This solution consists of 1 c.c. of concentrated (40 per cent) formaldehyde, 1 gm. of sodium hydroxide and 18 c.c. of sterile distilled water. A five-minute immersion of the eggs in the alkaline formalin solution and gentle agitation by means of the sterile applicator is sufficient to sterilize the eggs. To wash out the disinfecting solution, the eggs are poured into a sterile perforated Gooch crucible containing a small piece of sterile gauze bandage at its bottom to act as a strainer. About 100 c.c. of sterile distilled water is poured over them (Fig. 4).

Eggs thus treated may be considered sterile, and under aseptic conditions are transferred, together with the gauze on which they are collected, to a sterile food bottle. The food used for the larvæ is composed of a small flat piece of liver placed in a wide-mouth bottle containing 4 c.c. of plain agar (Fig. 5). Bottles containing this food are sterilized by being autoclaved at 20 pounds pressure for twenty minutes. These bottles are plugged with gauze-cotton stoppers. After the eggs are transferred to the food bottle and the gauze over the gauze-cotton stopper is securely fastened by means of a rubber band, the bottle is placed in the fly room where the conditions are favorable for the hatching of the eggs into the larvæ or maggot stage.

Under ideal fly room conditions the eggs will begin to hatch in about twelve hours. To be certain that these maggots are suit-

able for surgical use, a sterility test is made on each bottle. For this purpose a small amount of the liquid material is removed together with ten or fifteen maggots. The



Fig. 5.

maggots are macerated in the liquid obtained from each bottle under aseptic conditions and the substance is cultured aerobically as well as anaerobically. Three cultures are made under both conditions. For this purpose we use deep dextrose agar stabs for anaerobic cultures and plain agar slants for aerobic cultures. After cultures have been made, the bottles are kept in the fly room for an additional hatching period. Almost all of the eggs will hatch in twenty-four to thirty-six hours. All unhatched eggs still remaining within the bottles are removed on the gauze by means of sterile forceps.

Maggots measuring approximately 5 mm. in length are most suitable for surgical use. Growth of maggots is retarded if they are kept in the refrigerator. This procedure may be followed for not more than three days, because longer refrigeration has been found to shorten the feeding period and to lessen the feeding capacity of the maggots. If no growth of bacteria is found on the sterility test-cultures after forty-eight hours, the maggots are ready for sending to the physician for therapeutic purposes. It has been observed that the most active maggots are those which are used within seventy-two hours after they are hatched.

A difficulty frequently encountered when

maggots are to be used therapeutically is in the removal of them from the food bottles. While in the refrigerator, maggots will burrow into the agar which is in the bottle.

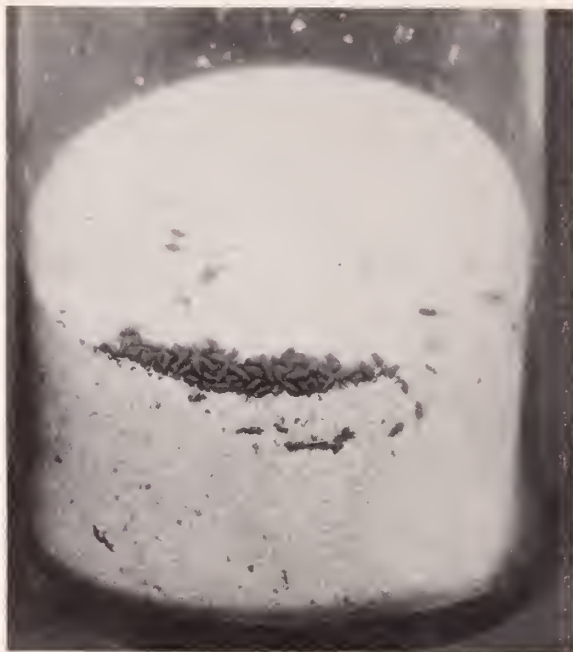


Fig. 6.

To drive them upward and onto the surface of the agar the bottle may be placed directly upon a small cube of ice for about four minutes. When once on the surface of the agar they can be removed from the bottle by introducing about 25 c.c. of sterile saline and pouring the maggots onto a piece of sterile gauze. From this they can be transferred to the wound to be treated.

#### To Develop Breeding Flies

The scattered groups and individual eggs that are not removed from the pieces of meat are, under ordinary conditions, sufficient to supply the flies necessary for breeding purposes. The meat containing these eggs is placed in a dressing jar or other container of approximately 1500 to 2000 c.c. capacity. To insure a plentiful supply of food for the young larvæ, scraps of chopped beef, vegetables, or orange peelings are placed in the container. The container is then placed within another larger container, the base area of which is about five times that of the one containing the food scraps. In this outer container, sterile sand is placed to a depth of 1 or 1.5 inches. To prevent the escape of maggots it is advisable

to cover the opening of the outer container with fine mesh gauze in such a way that no outlet is present at the margins.

The only disagreeable odors produced during the process of propagation are those arising from decaying meat within the inner container. To reduce this odor the container may be placed in a darkened cabinet provided with ventilation to the outside. The residues from the food of the brood larvæ are particularly offensive and should be disposed of immediately after the maggots have migrated out of the feeding container into the sand.

After a feeding period of five to seven days, the maggots attain full growth and migrate into the sand to pupate (Fig. 6). After three or four days of quiescence the pupal formation is complete and the pupæ may then be screened from the sand and separated from the few maggots that have failed to pupate. At ice box temperature the hatching of pupæ may be retarded indefinitely, and whenever it is found necessary to replenish the brood of flies they may be removed from the ice box and placed in the cages. Within two to three days at fly room temperature the flies will emerge from the pupal shells.

The method of rearing flies and maggots herein reported has proven very satisfactory and the laboratory has been able to supply sterile maggots within five days from time of request. When the demand is anticipated or if it is continued, maggots can then be supplied daily.

#### Summary

Maggots may be produced satisfactorily if favorable conditions are maintained.

Several difficulties encountered in the cultivation of maggots have been enumerated and means for overcoming them outlined.

We wish to acknowledge the helpful suggestions of Dr. J. A. Kasper and the photographic aid of Mr. S. Leroy Simmons. We also wish to thank Mr. H. W. Blades of the Petrolagar Laboratories for his helpful suggestions.

#### References

- Baer, W. S.: The treatment of chronic osteomyelitis with the maggot. *Jour. Bone and Joint Surg.*, 13:438-475, 1931.
- Buchman, J., and Blair, J. E.: Maggots and their use in the treatment of chronic osteomyelitis. *Surg., Gyn. and Obstet.*, 55:177-190, 1932.
- Robinson, W., and Simmons, S. W.: Effects of low temperature retardation in the culture of sterile maggots for surgical use. *Jour. Lab. and Clin. Med.*, 19:683, (April) 1934.
- Simmons, S. W.: Sterilization of blowfly eggs in the culture of surgical maggots for use in the treatment of pyogenic infections. *Amer. Jour. Surg.*, 25:740, (July) 1934.



## BRAIN TUMOR COMPLICATING PREGNANCY

WILLIAM H. MEADE, M.D.†

MANISTEE, MICHIGAN

This is a case report of a brain tumor complicating pregnancy and is presented because of its rarity and the similarity of brain tumor and toxemia of pregnancy.

On July 29, 1932, Mrs. S. A., aged twenty-four, housewife, entered my office complaining of an umbilical rupture and amenorrhea. Her last period was May 1, 1932, and she had all the other symptoms of early pregnancy. She was anxious to know if the umbilical hernia would interfere with labor.

She had the usual childhood diseases without any complications. At the age of fourteen she had a tonsillectomy and a fracture of the left femur at the age of twenty-two. She had had occasional headaches since childhood which were never accompanied by vomiting. There were no cardio-respiratory, gastrointestinal, or genito-urinary symptoms. Her average weight was 100 pounds. There was no history of convulsions, epileptiform, dizzy or syncopal attacks nor numbness and tingling in the extremities.

Menophania occurred at the age of fourteen. Her periods were regular until the present complaint.

Physical examination revealed that the patient was an underweight, asthenic, young, adult female who did not appear ill. Her head, ears, nose, larynx, and mouth showed no abnormalities. The pupils of the eyes were equal, round, and reacted to light and in accommodation. The extra-ocular movements were normal. The eye grounds were negative. She had two carious teeth. The thyroid showed smooth enlargement (1 plus). The thorax, lungs and heart were normal. Her blood pressure was 118/70. The radial pulses were equal. Her abdomen was flat and soft. There were no masses or tenderness. There was an umbilical hernia. The genito-urinary examination showed the labia, clitoris and urethra to be negative. The vaginal introitus was marbled and purplish. The cervix was soft and the uterus was enlarged to about two and one-half months pregnancy. There were no abnormal reflexes.

Laboratory findings were: Hemoglobin, 65 per cent Kahn test reaction, negative. Urine examination, negative results chemically and microscopically.

Quickening occurred on September 23, 1932. A monthly check of her blood pressure and urine revealed no abnormality. On December 12, 1932, in the seventh month of pregnancy, the patient complained of moderate headaches. The blood pressure and urine remained normal and the headache was relieved by 5 to 15 grains of amidopyrine daily. On January 1, 1933, the patient began to vomit and the headaches became so severe that she and her family feared she would lose her mind. An examination of the eye grounds showed a papillidema of 1.5 diopters. Large doses of magnesium sulphate were given daily and very definitely relieved the headaches. The patient slept very well on phenobarbital 0.1 grms. On January 10 the papillidema had increased to 3 diopters and there was no change in the blood pressure or urinary findings, but there was moderate swelling of the ankles, face and hands. An intravenous injection of 50 per cent glucose was given, relieving the headache. On January 17 the patient was hospitalized and an attempt was made to induce labor. The papillidema increased to 4 diopters. The pulse steadily increased but the temperature and respiration remained normal. The following day intravenous glucose was again ad-

ministered and within five minutes the patient developed a convulsion, became unconscious, and developed a bilateral positive Babinsky and a positive Hoffman sign. She regained consciousness in about two hours, but the pulse had increased to 140. At 4 o'clock of the same day she died. An immediate postmortem cesarean section was done and a living male infant was delivered.

Until the time of the convulsion the patient had no abnormal reflexes. No sensory changes were discovered.

There was a flattening of the convolutions of the right cerebral hemisphere and a cyst measuring 2.5x2x1.5 cm. was found in the right ventricle at the foramen of Monroe. This was attached to the choroid plexus. The ventricle was markedly dilated. The remainder of the organs showed the usual postmortem changes, except the uterus which had a surgical wound, 14 cm. in length. The pathologist's report of the pathologic specimen was "ependymal cyst of the choroid plexus."

## Summary

1. This is a case of primipara, who during the course of a normal pregnancy, developed signs and symptoms of increased intracranial pressure without abnormal reflexes and who died following the intravenous injection of a hypertonic solution.

2. The symptoms were suggestive of toxic pregnancy, but the condition was eliminated by the failure of the blood pressure to rise and albumin to appear in the urine.

3. A sub-temporal decompression might have been done on the evidence of increased intracranial pressure.

4. A lumbar puncture was certainly contraindicated due to the position of the tumor.

5. A living infant may be delivered by a post mortem cesarean section if done immediately after the death of the mother, particularly if she is nontoxic.

†Dr. William Meade received his Bachelor of Science degree from the University of Detroit, 1929, and Medical Degree, University of Michigan, 1930. He served his internship at St. Lawrence Hospital, Lansing, Michigan, and is resident physician at the Michigan State Sanatorium.

## MULTIPLE ACUTE PERFORATED DUODENAL ULCERS

EDWARD DOWDLE, M.D., F.A.C.S.†

DETROIT, MICHIGAN

The surgical literature, in general, gives a mortality of 23 per cent in cases of acute perforated duodenal ulcer with operation, and 65 per cent of these deaths are attributed to peritonitis, the latter occurring in direct ratio to the number of hours that have elapsed between the time of perforation and operation for same.

All the cases of general peritonitis, however, are not the result of the ulcers operated upon, as is shown in the following case report, wherein an undiagnosed acute perforation of a second ulcer took place six days following the operation for the first ulcer, with resultant general peritonitis and the death of the patient.

## Case Report

W. W., male, aged thirty-eight years, American, was admitted to Providence Hospital Monday, January 1, 1932, at 9 a.m., complaining of severe agonizing abdominal pain, having been suddenly stricken six hours previously while he was at work. The pain was continuous in onset and localized to the epigastric region and was so severe that he could hardly breathe; he was forced to lie with his legs drawn up. He was nauseated at onset of attack but did not vomit.

He gave a history of having had painful indigestion for the past three or four years. For several weeks at a time, two or three times a year, he would suffer epigastric pain two or three hours after eating. This pain was always relieved by eating or by taking soda. He received practically no medical treatment for this and he attributed it to heavy drinking in which he periodically indulged.

The patient was a rather asthenic, male adult, fairly well developed and nourished, presenting the appearance of being acutely ill and in severe pain. He was very pallid, his face bathed in perspiration. With the exception of the abdomen, the physical examination gave negative findings.

The abdomen was flat and presented a board-like rigidity throughout, and there was marked tenderness in the epigastric region. The area of the liver dullness was normal. Temperature on admission was 100; pulse 100; respirations 16. White blood cell count: 15,000, polymorphonuclear cells, 80 per cent.

The patient was immediately fluoroscoped and although no free air was seen above the liver, a diagnosis of acute perforated duodenal ulcer was made and operation for same was immediately performed.

*Operation.*—A five-inch right mid-rectus incision was made above the umbilicus. A moderate amount of serous fluid was present in the abdomen. A heavy deposit of fibrin was present over the fundus of the gall bladder and pyloric region of the stomach. Fibrinous adhesions existed between the first part of the duodenum, omentum and gall bladder. The stomach was delivered on to the abdomen, exposing the first two inches of duodenum. About one inch distal to the pyloric ring, on the anterior surface of the duodenum almost on its upper border, there was a perforated duodenal ulcer allowing the escape of gas and stomach contents. The perforation was large enough to admit the end of a probe.

The induration around the perforation extended half an inch in all directions. The ulcer was inverted by mattress sutures, approximating the duodenum above and below the ulcer, after which the gastrohepatic omentum and the gastrocolic omentum were sutured over the site of the ulcer. A perforated soft rubber tube was introduced down to Morrison's pouch to a stab-wound in the right loin. The wound was closed in layers. The patient was returned to his room in good condition.

From the time of operation up to midnight the following Saturday, a period of six days, the patient's postoperative course was satisfactory in every respect. He did not vomit at any time. The abdominal distention was only of a moderate degree and enemas given on the third and fourth days postoperative, were effective. He suffered only a moderate degree of abdominal pain for the first three days. The abdominal incision early showed signs of infection and there was a purulent drainage from it from the fourth day on. For the first four days there was a marked sero-purulent drainage from the stab wound. The patient was placed on fluids on the second and third days postoperatively and on a liquid diet on the fourth. His temperature from Monday to Saturday ranged from 99 to 101, gradually reaching normal by Saturday. The pulse rate for the first three days ranged between 110 and 120, after which it decreased in frequency, attaining a rate of 80 per minute on Saturday. Respirations were between 20 and 24. He felt and appeared quite well. The infected wound was the only apparent untoward complication. When I saw him on Saturday I was positive that he was entirely out of danger and that it was just another case in which there was no more need for concern.

About 1 a.m. Sunday, January 10, six days following the original operation, the patient was awakened from his sleep by a sudden severe pain in the upper part of the abdomen. Morphine was administered and when seen by me at 10 a.m. Sunday he appeared very acutely ill—much more so than before being operated on the preceding Monday. The pain had been continuous and very severe since early morning and his temperature, when I saw him, was 103. His pulse-rate was 145 per minute. Respirations were 25.

The abdomen was only moderately distended, but there was marked tenderness in the upper part of the epigastrium. The abdominal wound was still draining pus. Orthodox treatment for peritonitis was immediately instituted, viz., morphine p. r. n., and hot turpentine stupes to the abdomen, and salt solution and glucose intravenously and by hypodermoclysis; in other words, an attempt was made to obtain bodily, mental and intestinal rest, and to maintain the fluid and food intake.

†Dr. Dowdle is Attending Surgeon at Providence and Eloise Hospital, Detroit. He is a graduate of Cornell University Medical College, New York City, 1909, and served his internship at Bellevue Hospital, New York City, July, 1909, to July, 1911.



Something had happened to this patient that was entirely unexpected on account of the satisfactory immediate postoperative course. It seemed most probable to me that a leakage of the operated ulcer with resultant local peritonitis had taken place, although the patient described the pain as being exactly in the same location and of the same nature and severity as the pain preceding the operation. Also, the patient was too ill and too prostrated to be accounted for by a local peritonitis.

Several of my confrères were called in consultation and they all agreed with me in the diagnosis of a localized peritonitis, resulting from a leakage of the operated ulcer, and it was agreed to treat him expectantly.

Why a leakage had taken place was hard for me to understand as the ulcer had been closed easily and satisfactorily. Someone suggested, to my discomfort, that I had fed the patient too soon. Nevertheless, I went over the steps of the operation many times in my own mind and could not help but conclude that I probably had sewed up the opening too tight with resultant necrosis of the gut wall resulting in the leakage. White blood cells: 21,550, polymorphonuclear cells, 86 per cent.

From the onset of this complication up to the time of his death the patient was very acutely ill, presenting the text-book appearance of a virulent generalized peritonitis. His pulse rate ranged continuously between 120 and 150 per minute. Temperature ranged from 101 to 103. Respirations 25 to 35. Within twenty-four hours the abdomen became very markedly distended, which resulted in the operative wound opening up quite markedly down to the peritoneum.

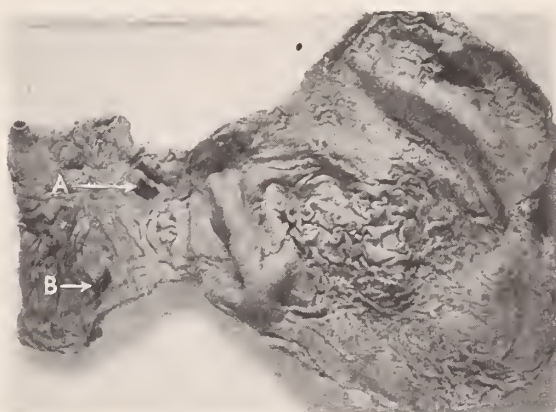
Coincident with this distention he started to vomit and this occurred repeatedly throughout the remainder of his illness. A Levin tube was inserted to offset this complication, and it drained profusely and constantly. The operative wound drained continuously a profuse serous-like secretion which resembled in many respects the drainage I encountered following an operation for a ruptured pancreas with resulting traumatic pancreatitis. Frequent repeated dressings were necessary to take care of this profuse drainage. Although for three or four days his condition seemed to improve somewhat in that he commenced to pass flatus and have bowel movements with resultant lessening of the abdominal distention, nevertheless he continued to grow much weaker.

On January 16, five days following the onset of the complication, a mass was palpable in the lower part of the abdomen. Under local anesthesia two incisions were made over the mass and only a small amount of the seropurulent material was obtained. However, it was manifest that there was an extreme degree of intra-abdominal adhesions. He expired January 19, fifteen days postoperative.

An autopsy, limited to the abdominal cavity and contents only, was performed immediately after the patient's death. The findings were as follows:

"All the abdominal organs are intimately fused together by strong bands of adhesions and agglutinated pus and fibrin cover their surfaces. Pus is found in all of the peritoneal spaces, the amount varying from 10 c.c. to 50 c.c. This pus is creamy in color and contains food elements. The greater and lesser omentum show fatty necrosis, the result of pancreatic ferment. The liver is markedly congested, slightly enlarged, shows areas of fatty necrosis and infarction. The gall bladder is markedly distended and filled with greenish bile. The ducts are free of stones; however, they are markedly sclerotic, exhibiting strong evidence of a previous chronic infection. Both the liver and gall bladder

are bound together by strong adhesions to other organs, and can be separated only with the greatest difficulty. The spleen is of normal size and shows local areas of necrosis and infarction. It is intimately fused by strong bands of adhesions to the stomach, pancreas, kidney and diaphragm. The pan-



Photograph of interior of duodenum and stomach in case herein reported.

The duodenum has been opened through the middle of its anterior aspect and shows at *A* the perforated ulcer for which operation had been performed. This ulcer was situated on the antero-superior aspect of the duodenum. At *B* is shown the ulcer on the antero-inferior aspect which perforated six days following the operation on Ulcer *A*.

creas shows an advanced fatty necrosis of a digestive type. No stones are found in the pancreatic duct. The stomach is of normal size and configuration; it is edematous and markedly hyperemic; it is bound by firm adhesions to its neighboring organs; a plastic exudate covers its surface. One-half inch below the pylorus there is evidence of a duodenorrhaphy. This speculation is supported by the findings of several undigested catgut sutures, this evidently representing the recent closure of a perforating duodenal ulcer. Part of the lesser and greater omentum had been sutured over this perforation. Section of this area reveals a stellate fibrous scar characteristic of an ulcer. It also shows recent healing and no evidence of recent perforation or leakage. Examination of the interior of the duodenum reveals the mucosa, muscularis markedly edematous and hyperemic, and shows two ulcers of equal size; the diameter of each is one-quarter inch, one ulcer situated in the anterior wall two finger-breadths from the pylorus near the lesser curvature, showing evidence of previous perforation which has been closed by strong bands of connective tissue and the large omentum. This ulcer is funnel-shaped; its crater has a rounded, irregular, hyperemic border, and exhibits digestion and necrosis of its mucosal, muscular layers, with only the serosa remaining. The ulcer is of long standing. The second ulcer is on the anterior wall in its lowermost portion, about two and one-half inches away from the pylorus, and shows a pinpoint recent perforation. It is my belief that this perforation is a recent one of about six or seven days duration and the cause of the patient's death."

In the *Journal of the American Medical Association*, July 4, 1931, Dr. Bruce L. Fleming of Philadelphia is the author of an article entitled "Acute Perforation of Duo-

denal Ulcers—Causes of Death and Consideration of Treatment.” Therein he gives collected information on 994 patients with 235 deaths, from published reports of thirteen different authors. Detailed reports are given of seventeen similar fatalities occurring in the Jefferson Hospital in a period of twenty-eight years. Causes of all deaths of the entire fourteen groups are as follows: Generalized peritonitis, 55 per cent; pulmonary complications, 13 per cent; shock, 5 per cent; subdiaphragmatic abscess, 5.9 per cent; all other causes, 8.6 per cent.

Leakage from perforation following the surgical closure is reported by him in only two cases in more than one thousand operated upon. He lays particular emphasis on the fact that duodenal perforation usually means peritoneal inoculation with pathogenic bacteria which accounts for the fact that acute diffuse peritonitis is the commonest fatal complication. He gives the average mortality rate as 23.6 per cent.

Moynihan says that “a duodenal ulcer which has been the cause of protracted and recurrent symptoms is always visible from the outside of the intestines, is always palpable and, therefore, always demonstrable. To this statement there are no exceptions. And, in at least 95 per cent of the total number of cases, the ulcer lies within the first portion of the gut, that is, within 1.5 inches of the pylorus. In a certain proportion of cases, between 10 and 20 per cent, the ulcers are multiple. There are sometimes seen on the anterior surface of the duodenum two, three, four or more old white scars along with an ulcer which is clearly of more recent origin and is in more active condition. Old ulcers and new ones are found side by side. When two ulcers are present, they are nearly always close

together and he has named them “kissing ulcers.” Biggs, in the *New York Medical Journal* of 1890, reported a perforation of two ulcers simultaneously in a woman. Moynihan reports two cases of his own in which two ulcers had simultaneously, or almost simultaneously, perforated.

“When perforation of an ulcer has occurred, the question will arise as to whether the ulcer is of the acute or chronic variety. In twelve consecutive years in the Leed’s Infirmary—1910 to 1921—there were sixty-one deaths from perforation of gastric ulcer. In sixty cases the ulcer was of a chronic variety. There were 117 deaths from perforation of a duodenal ulcer. In twelve of these cases there was an acute ulcer. In four of these twelve there was a chronic ulcer also, and in every case it was a chronic ulcer that had perforated, and in eight cases an acute ulcer had perforated.” (Moynihan.)

Clark and Franklin, in the *Lancet*, 1901, reported perforation of a duodenal ulcer five days after the closure of a ruptured ulcer of the stomach.

My case impresses me as worthwhile reporting, since simultaneous, or near simultaneous, perforations of two or more peptic ulcers may not be as rare as they are thought to be, and such should be kept in mind in the event of the occurrence of unexpected or unlooked-for abdominal symptoms which, although characteristic of acute perforation, are apt to be considered in the light of being due to complications associated with the operation already performed, such as leakage, et cetera. With the latter, expectant treatment will be indulged in with disastrous results, whereas immediate operation is necessary to save the life of the patient if a second perforation has occurred.

#### HISTORY OF MEDICAL LICENSURE

Henry E. Sigerist, Baltimore, reviews the history of medical licensure from the dawn of historic times to American medicine. In conclusion he adds a personal remark: He does not believe either in tests or in examinations. They are a necessity, as no other better method has yet been found, but it is well known that certain students have a special ability to pass examinations while otherwise brilliant students quite often show strong inhibitions in examinations. It is also known that actual knowledge alone does not make a good physician, that the

character and the whole personality have to be taken into consideration very strongly. In order to judge whether a man is fit to practice medicine or not, one must first of all know him and must have observed him at the bedside of the patient. The longer one has known him the more will one be able to pass judgment on him. The history of medical licensure begins in the Middle Ages. It is a unique feature in the history of medicine, in that the very beginning, the initial solution of the problem, was so perfect that a development of nearly 800 years could not improve it.—(*Journal A. M. A.*, March 30, 1935.)



## COMMENTS ON AN EXPERIMENT IN CHILD HEALTH IN MICHIGAN

MERRILL E. CHAMPION, M.D.†  
NORTH HARWICH, MASSACHUSETTS

In November, 1929, the Children's Fund of Michigan began a child health demonstration in Menominee County, Michigan, with the writer in charge as director. This work was discontinued in March, 1933, the closing being hastened by existing financial conditions. The demonstration, then, ran for three and one-third years. This paper consists of brief notes on the procedure followed together with comments on the county health problem with special reference to medical relationships. The opinions expressed herein are the writer's own and should not be interpreted as statements of organization policy.

### Background of the Demonstration

Menominee County, the southerly tip of the Upper Peninsula, has an area of 1,056 square miles and had, by the census of 1930, a population of 23,652, of which 10,320 were in the city of Menominee. There was no county health officer, but there were the usual township health officers, fourteen in number, and a part-time medical city health officer. The city had a whole-time school nurse, the only public health nurse in the county. An excellent county sanatorium dealt with the tuberculosis problem. Most of the laboratory service came from the State, though the city had its own water purification plant bacteriologist. The city had also an active sanitary inspector.

### Set-up of the Demonstration Itself

*Staff.*—The director, one nurse and one clerk comprised the staff until January, 1930, when a second nurse was added. A third nurse and a dental hygienist came in September, 1930, and a fourth nurse in February, 1931. A sanitary inspector joined the group in April, 1931. At the end of the demonstration the staff consisted of a director, a clerk, four public health nurses, a dental hygienist and a sanitary inspector. During two summers a dentist sent out from headquarters gave operative service to indigent children.

*Local Assistance.*—Medical and dental advisory committees were appointed by their

respective societies at the request of the Demonstration. Nothing was undertaken in their fields without consultation with them. A county advisory committee proved very useful. Township committees gave us contacts with every school district.

*Activities.*—The following activities were carried on: prenatal, infant, preschool and school public health nursing. Medical examinations of school children, preschoolers (especially those of the "summer round-up age") and infants; these examinations were merely the screening process necessary for referring children with defects to the family physician or dentist for final diagnosis and treatment. Health examinations of students in the county normal school. Dental prophylaxis and hygiene promotion the year round; summer dental operative service for needy children. Sanitary inspection, particularly of rural schools, milk and rural water supplies. Tuberculosis follow-up in coöperation with the county sanatorium and the local health officers. Crippled children supervision in coöperation with the state Crippled Children Commission. Health education, especially of the general public and in the rural schools. Contact with the latter was continuous through the medium of the nurse, dental hygienist, sanitary inspector and medical director. The basic idea always in mind, however, was that effective health education is possible chiefly through the school teacher. Great possibilities were visualized through our approach to the teacher-to-be in the county normal school.

Vital statistics were, of course, a matter of concern to the Demonstration staff but not being an official body it made use of the figures collected by the official agencies and only on special occasions attempted to col-

†Dr. Merrill E. Champion is a graduate of Harvard Medical School, M.D., 1906 and Harvard Technology School of Public Health, C.P.H., 1914. From 1929 to 1933 he was Director, Menominee County Child Health Demonstration, and was formerly Director, Division of Hygiene, Massachusetts Department of Public Health; Instructor in Child Hygiene, Harvard School of Public Health, and Lecturer, Simmons College School of Public Health Nursing. His specialty is Public Health.

lect figures of its own. Communicable disease, for the same reason, was left to the official agencies, though, naturally, every effort was made to assist the local health officers.

### Results of Work of the Demonstration

Evaluation of the results of a piece of work of this kind is difficult and apt to be misleading. Space forbids any extended discussion of the principles involved. An appraisal on the basis of the outline used by the American Public Health Association is a useful method up to a certain point. The Demonstration had, on this basis, at the end of the second full year of operation, a score of 577 out of a possible 1000 points. In the absence of a county health department this was approximately all that could be expected for our set-up. Another evaluation plan in great vogue at the present time is based on the number of lives supposed to have been saved and their supposed money value to the community. With this method I have scant sympathy. It is too full of fallacies and what might be termed meticulous inaccuracy.

Owing to the general financial depression, the county was not able to take over any significant portion of the Demonstration's work.

### General Comments

In the interests of conciseness only a few outstanding points are chosen for comment and especially ones touching more or less directly on the field of the medical and dental professions.

*Medical Examinations.*—The Demonstration having no other medically trained member of the staff, the Director did all of the medical examinations that were done. Many school inspections were done by the nurses. During the first year, in order to obtain quick acquaintance with the county and its people, the attempt was made to give a medical examination to as many as possible of the rural school children and to the city pupils in the kindergarten, first and sixth grades. During the second and third years, examinations were done in kindergarten, first, third and sixth grades. This gave us an idea as to the physical status of the child entering school; a chance to check up midway; and the opportunity of sizing up the state in which the school system deliv-

ered the child to the junior high school. It was found impossible to continue wholesale medical examinations of the children in the rural schools, though the inspections went on as usual.

The summer round-up of children about to enter school for the first time in the autumn was carried on by the Demonstration in conjunction with the parent-teacher association where one existed; elsewhere, with the teacher alone and the township advisory committee member.

An exceedingly valuable opportunity for making the medical examination of educational value was found in the county normal school. Each student was given a physical examination and advice as to health habits. In addition to this personal service, the examination of the children in the practice school was made the occasion of demonstration and discussion with groups of the normal school students. This was done at both beginning and end of the school year. The good effects of this procedure were manifest in heightened interest in the pupils' health when after graduation these students had schools of their own.

### Relationships with Medical and Dental Professions

These were always cordial. This does not mean that every physician and every dentist thought that the work of the Demonstration was necessary or productive of results. In every group there are those whose intensely individualistic clinical preoccupation seems to inhibit tendencies towards social-mindedness. Certain of the men showed keen interest in our work and were its mainstay. Some of the physicians had our nurses visit most of their prenatal patients. The nurses, of course, in their prenatal nursing visits, acted only as the agents of the family physician, seeing the patients he wanted them to see, telling them what he wanted told them and trying to get them to the doctor's office for regular personal oversight. The same general procedure was followed in work with children.

No medical or dental treatment clinics (except the summer dentistry referred to above) were held by the Demonstration. This policy represented a definite departure from the plan that is often followed. It was felt, however, that treatment was distinctly the province of the family physician and dentist.



### Discussion of Certain Outstanding Problems

Many public health problems were, of course, encountered; two, only, will be touched upon as representative of relationships between the medical and dental professions on the one hand and that of public health. The two chosen, namely, immunization and dental clinics, are outstanding examples of procedures which often are the source of irritation in public health work. Our experience in Menominee indicates in part a solution of the difficulty.

*Immunization.*—Everyone will agree that the immunization of all susceptible children against diphtheria and smallpox is a public health job of major importance. The Menominee Demonstration took the stand that the promotional work through public education was a legitimate function of the Demonstration; that the actual giving of the immunization was the function of the private physician; and that the cost should be met as nearly as possible by those responsible for the welfare of the child, namely, the family (except, of course, in the case of the needy). This principle was adhered to throughout. Furthermore, it worked very well.

The procedure followed was this. The Demonstration staff approached the local agencies interested in the welfare of the child with the suggestion that immunization be begun. Most communities had not done much previously; several, however, had. The agencies approached might be parent-teacher associations, school teachers, school directors and, of course, local health officers. The public was interested by talks, newspaper articles and personal contact. The local group which was to take the lead in putting through the project made arrangements with their local physician to do the work and he was always glad to make a special charge in view of the fact that en masse handling of the children made it easier to do a large number in a short time. The families receiving the service paid the fee agreed upon to the agency in charge of the clinic and the money thus collected was turned over to the physician. In one instance, at least, the parent-teacher association made up the deficit caused by the inclusion of those who could not afford the fee charged. In one community the children themselves by odd jobs earned the money for their immunization.

Clinics such as these did far more than render immune to diphtheria a certain number of children; they strengthened the sense of responsibility of the communities and the ties between them and their physicians. Fewer immunizations were done, naturally, than if the Demonstration had carried on free clinics for all comers. On the other hand, the end results from a social point of view were far better in terms of family responsibility. It is a mistake, I think, for health departments and private agencies to continue to offer free immunization to all under the plea of education or demonstration. Most people are so constituted that if they can get a service free from public sources they will not pay for it at the hands of the private physician. The demonstration period—if such were necessary—should now be past so far as immunization is concerned.

*Dental Hygiene.*—Everyone will agree as to the great need of this. Everyone will agree that operative dentistry, too, is a necessity now and for a long time to come. But the proper method of handling the dental problem is still a moot question. The Menominee Demonstration followed the plan of employing a dental hygienist for educational work and oral prophylaxis together with a dentist for summer operative work amongst the needy. The latter, I think, should not have been necessary, though the question of the taxpayer's money did not, under the circumstances, enter into the case. The depression was its only excuse. The dental society in coöperation with the poor relief agencies should be able to work out a satisfactory plan for giving care to the needy; and in the case of those able to pay a small fee, special office hours and charges should enable the members of the dental society to meet the situation. The undesirable results of free clinics for any but the indigent are easily to be seen by all except those convinced of the value of state medicine. Even the educational phase of the dental problem need not call for extra appropriations if an effort is made to ground the school teacher in the rudiments of dental hygiene—which could easily be done in the normal school.

### Summary

This paper comments briefly on a child health demonstration, financed by a private

foundation, which was carried on for three and one-third years in a county of the Upper Peninsula of Michigan. This county had no official county health officer. The demonstration staff consisted of a medical director, four public health nurses, a sanitary inspector, a dental hygienist and a clerk.

It was found that the necessary work of the demonstration could be carried on with the good will of the medical and dental professions.

The work was characterized by certain innovations. For example, no immunizations were done by the staff which merely stimulated public opinion and encouraged clinics carried on by the local practicing physicians and paid for by the recipients of the service. No dental operative work was done except for the needy during the summer. If the depression had not been so acute, this, too, might have been avoided.

Teachers in the rural schools were encouraged to show an interest in every phase of school hygiene. Pupils in the county normal school were taught to look for departures from the normal in the health of their pupils to the end that these defects might be brought to the attention of the

family, the family physician and the family dentist.

Prenatal, infant, preschool and school public health nursing was stressed; in each instance the nurse went into the home as the agent of the family physician. As a permanent feature, this work could well be carried by private visiting nurse associations, the absence of which, in Menominee County, was felt to be a distinct handicap to adequate health work.

The conviction was strengthened that a county health officer, assisted by two nurses, a sanitary inspector and a clerk, could do a good piece of work but only if he avoided doing anything which he could get anyone else to do. Immunization, dental treatment, bedside care, maternal and child hygiene, all are visualized as belonging with the family physician or dentist. Instructed teachers, guided by the nurses, can do most of the school work. The care of the indigent is a problem for the poor relief agencies working with the medical and dental societies. Interested groups—parent-teacher associations for example—can help the health officer save the taxpayer money by encouraging the individual family to want more health supervision and to pay for it.

## AN APPRECIATION OF TOBIAS G. SMOLLETT, M.D.\*

ROGER S. SIDDALL, M.D.†

DETROIT, MICHIGAN

Dr. Tobias Smollett is justly famous in the history of literature as one of the ablest of the mid-eighteenth century writers who did so much to develop the English novel. Yet he was not a fiction writer only, and one may guess that he, himself, was far from aware of his importance in the evolution of the novel. Certainly his main efforts were not in that direction as he devoted most of his time and energy in forcing his very poor plays on reluctant producers; in political and other disputes; and in efforts to increase his income by translations, compilations, editing, and by what came very near to being hack-writing. Medicine obviously ranked far down in the list of Smollett's activities and interests, yet on examination it seems to have been not the least important influence on the man himself and on the permanent value of his work.

Tobias George Smollett (1721-1771) was

\*Read before the Detroit Medical History Club, November 28, 1934.

†Dr. Roger S. Siddall is a graduate of Johns Hopkins University School of Medicine, 1920. He is Assistant Surgeon, Department of Obstetrics and Gynecology, Harper Hospital, and Instructor in Obstetrics, College of Medicine, Wayne University.

born in Dumbartonshire, Scotland. His family was one of some distinction, his grandfather being Sir James Smollett, member of Parliament and judge of the Commissary Court. Tobias, though orphaned early, received a good education but little else as his father had married against Sir James' wish. After entering the university at Glasgow, he decided to study medicine and was apprenticed to John Gordon, a prominent surgeon, of whom he says in



*Humphrey Clinker*, "Had he lived in ancient Rome he would have been honored with a statue at the public expense."

The youth was anything but an industrious apprentice, early showing a tendency to letters, though he seems to have won the regard of his master. In 1739, when eighteen years old, and after having served only three years of his apprenticeship, he went to London with his very bad tragedy, *The Regicide*. His play not being accepted, he was forced to seek other employment and shipped as surgeon's mate on H. M. S. Cumberland. He served through the unsuccessful siege of Cartagena in 1741. Following this he was in Jamaica where he married Anne Lascelles, the daughter of a planter.

In 1744, Smollett returned to London to set up in practice, "but attracted attention as a wit rather than a leech." He wrote some poor verse, satires, plays, and in 1748, his first great novel, *Roderick Random*. He drew from his adventures on the Cartagena expedition to such purpose that Scott said everyone who has written about the navy since seems to have copied more from Smollett than from nature. Though now having become a figure in literature, but evidently still intending to combine medicine and authorship, he obtained the M.D. degree from Aberdeen in 1750 and tried practice in Bath. *Peregrine Pickle* was published in 1751.

In 1752, apparently giving up medicine entirely, he returned to London. Here the third novel, *Ferdinand Count Fathom*, soon appeared. Now, unfortunately, in an effort to increase his income to support his expensive way of living, Smollett became a "writer of all work, though he was never a mere hack," but rather a journalist, translator, compiler, and political and miscellany writer. His irritable and pugnacious nature involved him in many quarrels and lawsuits. His partisanship and caustic attacks subjected him to insults, ridicule, fines, and imprisonment at least once. He was reported to have had an unamiable variety of Scotch pride, which with his fiery temper, gave him an unreasonable readiness to take offense or give it. On the other hand, he was affectionate to friends and family, and generous rather than parsimonious. Having again turned his attention to fiction, he wrote *Sir Launcelot Greaves*.

Finally, with the death of his daughter and from the strain of his work and type of life, Smollett became broken in health. He was said to have been a chronic sufferer from asthma. Travel in France and Italy from 1763 to 1766 was followed by some improvement and supplied material for ill-natured satires on foreigners. A trip to Scotland, where he was much honored, and a stay in Bath were followed by a return to London to write *The History and Adventures of an Atom*, a clever but scurrilous satire on the political situation in England which has little permanent value except possibly some historical interest.

In 1769, Smollett's health collapsed completely, and he returned to Italy where he died near Leghorn, in 1771, at the age of fifty. Shortly before his death he wrote *Humphrey Clinker*, certainly his most agreeable novel. His biting and often corrosive wit had become moderated by illness and age while his descriptions and characters remained as real as ever.

Smollett's medical experience has been treated rather lightly by commentators, yet it evidently was an influence which should not be disregarded. That he was not a great medical man may be granted, though the facts that he obtained a university degree and that he collaborated in the revision of William Smellie's system of midwifery should have given him a definite scientific standing. All told, Smollett spent about sixteen years as student and more or less active practitioner. During at least nine of these years his chief support was derived from his professional work, first in the navy and later on land—certainly not an insignificant medical knowledge and experience. It is my impression that this training was a powerful factor in determining Smollett's literary subject-matter and characteristics, at least so far as his fiction is concerned.

In the first place, and fortuitously, of course, medicine led Smollett to the navy and adventurous experiences—an abundant source from which he drew for his first novel, *Roderick Random*. His talent for description was based on accurate powers of observation which could only have been made keener by medical training. The same can be said for his remarkable insight into human nature. His characters are genuine, though caricatured on occasion, and are influenced in a most realistic way by

their ills, mental traits, natural impulses, training and environment. This can be objectionable, no doubt, to those who demand only good of the hero and bad of the villain, thus ignoring a fact of which the physician is constantly reminded—that we are all a combination of good and bad. Not that Smollett, in recognizing evil as a part of human nature, makes it alluring with a sneer at virtue, as is all too frequent in our day. Just the opposite is true. For, with "no sense of the infinite and the eternal, which is the essence of religion" (an accusation which has been brought against medical men of all times), he clearly indicates the hazards of folly and evil: the cruel schoolmaster is given a beating, the adulterer is hurt by the disgrace and sufferings of his son, the spendthrift is thrown into prison, the prostitute becomes destitute and diseased. This is cause and effect morality of materialism without pretense at spirituality, but practical and to be expected of a medical practitioner.

Smollett is characterized by a lack of delicacy, as judged by usual literary standards, with the result that he is little read, even now when frankness is seemingly displacing prudish illusion. Some part of this coarseness (or realism) has been ascribed to medicine, but also it must be remembered that his was a rough age and that much of his early life was spent in the "English navy at its very lowest point," and with first-hand knowledge of the stench, lusts and agonies of such dark parts of London as Beer Lane and Gin Alley. His early fiction reflects the rough vigor, courage, fertility of invention, and zest of rampant youth of the eighteenth century and the hardness and cruelty of the times. *Humphrey Clinker*, the last and most agreeable of the novels, lacks the ferocious vigor and brutality of early works, and the chief character, Matthew Bramble, resembles the old and sick author himself—a good and kind man, alert mentally, but soured with age and illness. Ludicrous comedy is abundant throughout Smollett's novels, but it, too, is apt to be coarse and of the extreme practical joke sort of the period, even to the point of brutality. His wit retained to the last, is keen but may be savage, especially when used in personal attack, as was so frequently the case. By one of his reviewers, Smollett was said to be a stranger to delicacy due to

"a natural insensibility improved with a medical education." However, if it be thought that interest is detracted through coarseness, it is also evident that the same feature adds much in faithfulness and historical value to the depiction of eighteenth century life.

For the benefit of accuracy, may we not be fortunate that Smollett wrote with a frankness which has been called coarseness? Perhaps he was actually not so lacking in personnel refinement, for Anderson said he had uncommonly elegant and prepossessing figure and address and unsullied manners. But rather, it may have been, he was faithful to a natural impulse toward actuality "improved with a medical education." That he was essentially honest, in spite of exaggerations due to his fiery temper and pugnacity, is attested by the example of his none too favorable comparison of the north side of the Tweed to the south—he a patriotic Scotchman. Realizing, as few outside the medical profession can, the importance to the individual and the community of the less mentionable hygienic, physiological and pathological aspects of life, how could he show a true picture other than by giving them a place? That he exceeded the bounds of necessity at times is regrettable but is due in no small part to the custom of his age and ought to be tolerated with leniency by any but the most impractically fastidious for the sake of truth. And, are we not all a little the better for some of this medicine?

In Smollett's works there are numerous references to medicine which are of considerable medical and some general interest. He shows the medical student of his day, medical practice in the British Navy and on land, and gives an excellent picture of the prevailing insanitary living conditions. There is even some realization of the possibilities of preventive medicine. His mention of ethical practice is kind but brief, and he devotes much more space to the condemnation of quackery, including advertising and other unethical methods of securing patients, in no uncertain terms. He especially derides that type of practitioner who hides his ignorance behind boastful claims and bombastic pseudo-learning. In this "the age *par excellence* of successful quacks" (Garrison), the associate and intimate of William Hunter, Armstrong, Pitcairn, and William Smellie could justly be indignant



at the claims of medical pretenders whose chief equipment was effrontery and an assumption of the "solemnities of dress and address" of physicians. Medical judgment is shown in his evident disapproval of some accepted practices such as bleeding for almost every ill. His only purely medical paper was in regard to the mineral waters of Bath with "a plan for rendering them more safe, agreeable, and efficacious," but for all his trouble he left the impression that any other water would do as well. Such scientific honesty was naturally of no help to his practice. Later and unflattering descriptions of the discomforts and insanitary conditions at Bath were based on facts, no doubt, even though inspired by partisanship.

In searching through Smollett's works for illustrations of his style, one finds humor the most frequent feature. Actions, situations and characters, almost without exception, have something of the humorous ranging from the merely droll to the ludicrous. The following bit of repartee is a gem for wit, yet at the same time gives a glimpse of the age and also bears a moral. Roderick Random relates that on the stage-coach to Bath there was a boastful and wordy army officer, who soon after leaving London became annoying in his efforts to start conversation. Being unsuccessful, he finally swore he had got into a meeting of Quakers. "I believe so, too," said a shrill voice at my left hand, "for the spirit of folly begins to move." "Out with it then, madam," replied the soldier. "You seem to have no occasion for a midwife," cried the lady. "D—m my blood," exclaimed the other, "a man can't talk to a woman, but she immediately thinks of a midwife." "True, sir," said she, "I long to be delivered." "What! Of a mouse, madam?" said he. "No, sir," said she, "of a fool." "Are you far gone with fool?" said he. "Little more than two miles," said she.

The following somewhat deleted account is an example of what coarse wit Smollett could employ in personal attack. The incident concerns a doctor whom he evidently thought guilty of pretensions of learning, humbuggery, and such unethical practices as soliciting patients and using secret remedies—offenses against which he time and again expressed his resentment. When it is remembered that often his victims could

easily be identified, as in this case, one does not wonder that Smollett was fined and imprisoned but rather how, in an age of direct action, he managed to die a natural death. In *Humphrey Clinker*, Jerry Melford relates a conversation between his uncle, Matthew Bramble, and Dr.——— "who is come to ply at the Well for patients." The doctor, overhearing the uncle's expressed disgust for the stink of the mud and slime, assured him he was mistaken. "Then humming thrice, he assumed a most ridiculous solemnity of aspect, and entered into a learned investigation of the nature of stink . . . Then addressing himself to my uncle, 'Sir, (said he) you seem to be of a dropsical habit . . . ' Uncle said, 'But I should be glad to know what makes you think I am of a dropsical habit?' 'Sir, I beg pardon,' replied the doctor, 'I perceive your ankles are swelled, and you seem to have the facies leucophlegmatica. Perhaps, indeed, your disorder may be œdematous, or gouty, or it may be the lues venera. If you have any reason to flatter yourself it is the last, sir, I will undertake to cure you with three small pills, even if the disease should have attained its utmost inveteracy. Sir, it is an arcanum which I have discovered, and prepared with infinite labor. Sir, I have lately cured a woman in Bristol—a common prostitute, sir, who had got all the worst symptoms of the disorder; such as nodi, tophi, and gummata, verrucae, cristae Galli, and a serpiginous eruption, or rather a pocky itch all over her body. By the time she had taken the second pill, sir, by Heaven! she was as smooth as my hand, and the third made her as sound and fresh as a new-born infant.' 'Sir! cried my uncle peevishly, 'I have no reason to flatter myself that my disorder comes within the efficacy of your nostrum. But this patient you talk of may not be so sound at bottom as you imagine.' 'I can't possibly be mistaken,' rejoined the philosopher, 'for I have had communication with her three times—I always ascertain my cures in that manner.' At this remark all the ladies retired to another corner of the room, and some of them began to spit." In a righteous cause, Smollett evidently believed in war of destruction.

The following excerpt from *Adventures of an Atom*, though not so scurrilous, is equally devastating: " . . . it was my hap to encounter a learned physician of my ac-

quaintance, who hath read all the books that ever were published in any nation or language; to him I referred for the derivation of the word *atom*. He stroked his chin with solemnity, and hemming three times, 'Greek, sir,' said he, 'is more familiar to me than my native tongue. I have conversed, sir, with Homer and Plato, Hesiod and Theophrastus, Herodotus, Thucydides, Hippocrates, Aretæus, Pindar, and Sophocles, and all the poets and historians of antiquity. Sir, my library cost me two thousand pounds; I have spent as much more in making experiments, and you must know that I have discovered certain chemical specifics, which I would not divulge for fifty times the sum. As for the word *atomos* or *atime*, it signifies a scoundrel, sir, or as it were, sir, a thing of no estimation. It is derived, sir, from *alpha* privativa, and time, honor; hence we call a skeleton an atomy because, sir, the bones are, as it were, dishonored by being stripped of their clothing, and exposed in their nakedness.' I was sorely vexed at this interpretation, and my apprehension of lunacy recurred."

It should be emphasized, as indicated before, that Smollett's indelicacy is not truly vulgar or low, nor is it ever dirt for dirt's sake. On the contrary, it may be called the frankness of the well-informed and educated man (made more accurate and practical by medical knowledge) who writes in a candid age. So true are his descriptions and characters that they have been imitated extensively. No less a novelist than Dickens shows the influence of Smollett. His understanding of human nature was profound. Roderick Random, whose chief redeeming feature was courage, held to inaction when chained to the poop during a sea fight quivered with fear, as would the stoutest of us—but what an opportunity to depict a story-book hero! Again, how true to life is the story (or case history) of Mrs. Trunnion as related in *Peregrine Pickle*! Perhaps it should not be told since it concerns a certain aberration necessitating reference to a common but scarcely mentionable condition of women, which however is so important to all at least once and seems indispensable for the continuation of the race. At any rate, the recently wedded Mrs. Trunnion entering upon various expenses in efforts to exceed the neighbors' standards of living was finally balked at having a coach and six by her

hitherto indulgent husband. "She tortured her invention for some new plan, by which she might augment her influence and authority. What her genius refused was supplied by accident; for she had not lived four months in the garrison, when she was seized with frequent qualms and retchings, her breasts began to harden, and her stomach to be remarkably prominent . . ." Her old husband became transported with joy at the prospect of an heir. She got her coach and entered upon other expenses allowed by her husband. She assumed all the symptoms of pregnancy, and her husband became boastful with his companions. The term of her computation having expired, the midwife was called one night, and again two nights later. "The next call was altogether as ineffectual as the former" except for a reduction in her size. A surgeon was then called, who said she had never been with child. Characteristically, his word was ungraciously received, but finally it became evident that he was right. The mortification of husband and wife was intense, yet, for the latter it is probable the coach and six was some consolation.

Smollett's pictures of medicine in the eighteenth century are far from pleasant as a rule and anything but complimentary. True, he pays fitting tribute at times to good medicine and shows his regard for such medical men as Dr. Moore, the father of the hero of *Coruna*; his former master, Dr. Gordon, and others of ability and honor. But, as pointed out previously, it was Smollett's nature to be reserved in expressing approval, and quick in perceiving and energetic in attacking wrong. Accordingly, it may be thought that his works make too much of the worst side of medical practice in his time. However, information from other sources leads one to believe his accounts are not greatly exaggerated. Garrison says of the eighteenth century that "Quackery, if not universal, was at least, in Thoreau's phrase, 'universally successful.'" Sincerity should force us to admit that even in our so-called enlightened age a Smollett would have no dearth of material.

As a medical student, or apprentice, Roderick Random is pictured as a studious, hard-working but humorous and ramping scapegrace, who becomes involved in amorous adventures in keeping with the times. Stevenson in his time once asked "whither



go all the unpleasant medical students, and whence come all worthy doctors?" Even today one may be asked what becomes of the rowdy medical students, (the question thus implying refinement and rectitude to the remainder of the profession), and can only answer that they become internes. Lewellys Barker made the observation that young medical men abruptly faced with so much human tragedy turn to coarse humor as a release for their feelings and to preserve their sanity. The same reason, no doubt, explains some of their behavior. Due to no fault of his own, Roderick was ousted by his first master, but was promptly taken on by a bitter rival in practice, Dr. Crab, who said of Potion (the first master), "There's a sneaking dog! . . . I always thought him a fellow without a soul, damn me!—a canting scoundrel, who has crept into his business by his hypocrisy, and kissing the ass of everybody." "Aye, aye," says another, "one might see with half an eye that the rascal has no honesty in him, by his going so regularly to church." A third agreeing said that Potion was never known to be disguised in liquor but once, at a meeting of the godly, where he had distinguished himself in an extempore prayer an hour long. Random, in stating his qualifications, asserted that he had studied some surgery. "Oho! you did?" says Crab. "Gentlemen, here is a complete artist! . . . studied surgery! what? in books I suppose . . . But let's hear no more of this stuff. Can you bleed and give a clyster, spread a plaster, and prepare a potion?"

After a stormy time in which the master did not always get the best of his apprentice, Crab paid Random's expenses to London in order to blame on him certain of his own irregularities. Failing in efforts to enter on a literary career, Roderick resolved to enter the navy as a surgeon's mate. His appearance before the examining board is noteworthy for attempts by way of sport at the expense of the candidate and for the following argument: Having described the treatment for wounds of the intestine, Roderick was asked if he had ever known a case to recover. "I answered I did not; and was about to tell him I had never seen a wounded intestine; but he stopped me by saying with some precipitation, 'Nor never will. I affirm, that all wounds of the intestines, whether great or small are mortal.' 'Pardon

me, brother,' says the fat gentleman, 'there is very good authority . . . ' Here he was interrupted by the other with, 'Sir, excuse me, I despise all authority. Nullius in verba. I stand upon my own bottom . . . ' 'But sir, sir,' replied his antagonist, 'the reason of the thing shows . . . ' 'A fig for reason,' cried this sufficient member, 'I laugh at reason, give me an ocular demonstration.'" Thereupon the dispute became general, and Roderick was passed without further questioning.

Being made to wait for assignment to a ship and having spent all his money in bribes to crooked officials, Random entered the service of a refugee French apothecary, Mr. Lavement. He, in the words of Roderick, ". . . was the most expert man at a succedaneum of any apothecary in London; so that I have been sometimes amazed to see him, without the least hesitation, make up a physician's prescription, though he had not in his shop one medicine mentioned in it." Again, "Among many nostrums which he possessed, there was one for the venereal disease, that brought him a good deal of money; and this he concealed so artfully from me that I could never learn its composition. But during the eight months I staid in his service, he was so unfortunate in the use of it, that three parts in four of those who took it were fain to confirm the cure by a salivation under the direction of another doctor." Roderick, because of a false accusation, was discharged by Lavement and some time later entering a garret where he had been forced to take lodging saw there a prostitute in a pitiable condition. "She, getting a venereal disease, had accordingly chosen this place of retreat, and put herself into the hands of an advertising doctor, who, having fleeced her of all the money she had, or could procure, left her three days ago in a worse condition than that in which he found her." Roderick undertook and brought about her cure.

Equally distasteful are descriptions of medicine in the English Navy. Random describes the sick-berth or hospital on board his ship: "Here I saw about fifty distempered wretches, suspended in rows, so huddled one upon another, that not more than fourteen inches space was allotted for each with bed and bedding; and deprived of the light of day, as well as fresh air; breathing nothing but a noisome atmosphere of the

morbid steams exhaling from their own excrements and diseased bodies, devoured with vermin hatched in the filth that surrounded them, and destitute of every convenience necessary for people in that helpless condition . . ." The attendants stripped to the waistcoat, crept beneath the hammocks, and forced head and shoulders up between two in order to administer treatment. The ship happened to roll on Roderick's first attempt, and "I laid hold of the first thing that came within my grasp, with such violence that I overturned it, and soon found by the smell that issued upon me, I had not unlocked a box of the most delicious perfume . . ." Pitiless brutality was common in the navy, as for example: The captain coming aboard insisted that there should be no sickness on his ship and ordered the patients back on duty. Many died, and one madman attacked the captain. During the siege of Cartagena an epidemic of fever raged among the forces. The victims became black, and of those attacked three-fourths died. Random was affected, and believing the medicine used did harm he took none and recovered. On another voyage to the tropics Roderick practiced what could be called preventive medicine when he bled all on board as a prophylaxis against fevers which attack Europeans in hot countries.

Smollett had Matthew Bramble give what were evidently his own shrewd opinions concerning certain wells and bathing places. What a merry account he might have given of the recent spectacle of an enthusiastic nation dancing for the benefit of an institution impractically distant from any large number of patients, but famed as the place where a great man bathed—while Nature helped him. In part Bramble said, "I have read all that has been written on the Hot Wells, and what I can collect on the whole, is, that the water contains nothing but a little salt, and calcareous earth, mixed in such inconsiderable proportions, as can have very little, if any effect on the animal economy. This being the case, I think, the man deserves to be fitted with a cap and bells, who for such paltry advantage as this spring affords, sacrifices his precious time, . . ." et cetera.

Descriptions of Bath, then highly fashionable, are said to have been prejudiced, yet a doctor of discrimination could hardly view conditions there with equanimity. Matthew

Bramble writes from Bath to his physician that he refused to take the waters at King's Bath. He relates that he entered there "... in order to clear the strainer of the skin, for the benefit of a free perspiration; and the first object that saluted my eye, was a child full of scrophulous ulcers . . . . . Suppose the matter of these ulcers, floating on the water, comes in contact with my skin, when the pores are all open . . .," et cetera. He also refused to drink the water, for "... it is very far from being clear with me, that the patients in the Pump-room don't swallow the scourings of the bathers . . . . . what a delicate beverage is every day quaffed by the drinkers . . ." Smollett evidently had no high opinion of fashionable spas as to comfort, benefit to health, or type of medical practitioners usually found there. It is probable that the same opinion today would receive substantial support among the medical profession.

For the reader of discernment, especially if a medical man, Smollett's works should be much the more interesting for his appreciation of and ability to portray the importance of medical matters. Not only his characters, but also events and the community are more real and understandable for fitting references to medical and public health conditions. For instance, the failure of the Cartagena expedition has been ascribed largely to the incompetency and jealousy of the army and naval commanders, yet enfeeblement of the forces by fevers was clearly an important factor in the abandonment of the expedition after some initial success.

In *Humphrey Clinker* we see a vividly authentic picture of city life. The youthful Jerry Melford and his sister enthusiastically describe the diversions and the cultural advantages of London, while the ailing Matthew Bramble finds much about which to grumble. He comments on the rapid growth of the city now with a sixth of the Kingdom's population and more flocking in for an easy life . . . "Great numbers of these being disappointed in their expectations, become thieves and sharpers . . ." "The diversions of the times are not ill suited to the genius of this incongruous monster, called the *public*. Give it noise, confusion, glare and glitter; it has no idea of elegance and propriety, . . ." And, no wonder infectious diseases and early death were the order of the day for, "If I would drink water, I



must quaff the maukish contents of an open aqueduct, exposed to all manner of defilement; or swallow that which comes from the river Thames, impregnated with all the filth of London and Westminster—Human excrement is the least offensive part . . .," et cetera. As for food: "It was but yesterday that I saw a dirty barrow-bunter in the street, cleaning her dusty fruit with her own spittle . . ." "Now all these enormities might be remedied with a very little attention to the article of police, or civil regulation, but the wise patriots of London have taken it into their heads, that all regulation is inconsistent with liberty . . ." Old Matthew said that the food in Edinburgh was good, but described how the people living in two to eight story buildings, with a family to each floor, at a certain time at night discharged the "impurities" of the day from their windows. The scavengers would leave behind enough to offend the eyes and other organs. "The inhabitants seem insensible to these impressions, and are apt to imagine the disgust that we avow is little better than affectation . . ." Winifred Jenkins, the maid, further explains the discomforts and

inconveniences in the use of the inadequate equipment, and referring to the actual disposal of the "impurities" she says, ". . . and the maids call *gardy loo* to the passengers, which signifies *Lord have mercy upon you!*"

Smollett also shows much of the country life in England, Wales, and the Scottish Highlands. And, in addition to those already cited, there are many other references to matters of medical interest. He praises golf as healthful exercise; he describes the almost unbelievable amounts of whiskey consumed by the Highlanders, and the use of whiskey in pediatrics; reference is made to the laws against the sale of quack remedies; etc., and thereby the vivid depiction of people and the eighteenth century is made more complete. It must be admitted that my estimate of Dr. Smollett may seem to differ considerably from that given by reviewers and critics, yet "I affirm . . ." "Pardon me, brother," says the fat gentleman, "there is very good authority . . ." "Sir, excuse me, I despise all authority. Nullius in verba. I stand upon my own bottom," and, "A fig for reason."

## OUR INTERESTING "ORIENT"\*

WILLIAM J. STAPLETON, JR., M.D.

DETROIT, MICHIGAN

Our plans last summer were uncertain as we did not get away until late in August. We started East with the idea of taking a place out on Cape Cod but by the time we reached New York the weather had turned chilly. Recalling an article in the *National Geographic Magazine*, June, 1934, about the National Park recently made out of the Great Smoky Mountains, we decided to go South.

Our trip East was through Canada to Buffalo, across New York State, stopping on our way at that delightful college town, Williamstown. Here we took the Mohawk Trail, lunching at the Sweetheart Inn on delicious waffles and bacon. A lazy Sunday afternoon drive through the Berkshires into northern Connecticut brought us to Norfolk, where we stopped to pay our respects to that great man of medicine, Doctor William Welch. The house in which he was born is marked with a bronze tablet, and not very far away he lies buried in the village graveyard among his many doctor ancestors. Dr. Har-

vey Cushing has written an article, "The Doctors Welch of Norfolk" which is a beautiful tribute from one great man to another.

New York has much to offer the physician. The New York Academy of Medicine provides visiting physicians with all necessary information regarding hospitals, clinics, and various society meetings.

One may recall that for many years there stood in Bryant Park a statue of that great American gynecologist, Dr. James Marion Sims. I looked in vain for it and upon inquiry found that it had been moved to Cen-

\*Under the general heading "The Doctor's Log" Dr. Stapleton has contributed yearly his travel experiences in this country and in Europe. Dr. Stapleton's medical interests are always present in his wonderings whether at home or abroad. The demand of space for the scientific contributions has precluded any earlier publication of this article.—EDITOR.

tral Park and recently rededicated. The statue was unveiled by Dr. Alice Gregory, a grand-daughter of Dr. Sims, who founded the first Women's Hospital in New York in 1855. Dr. Ward in his dedication remarks said Dr. Marion Sims was the pioneer in modern gynecology. "To Sims," he said, "belongs the honor of arousing the profession and the laity to the needs of suffering women of his day, and by his genius and skill making possible the cure of the numerous diseases and injuries that are peculiar to the sex, so that he will have an enduring monument in the gratitude of women to his talent, his genius and his philanthropy."

Leaving New York we drove through New Jersey into Pennsylvania, stopping at Bethlehem to see the old Moravian part of the town. One usually thinks of Bethlehem as the home of the steel industry, which it is; but tucked away in the old part of the town are the fine old buildings dating back to 1742. The old Church, the Seminary buildings, the Widows' Home and other buildings belonging to the Moravian Community are standing. The story of the Moravian from their earliest days in Europe to their settling in Pennsylvania is an absorbing one. It is the old story of the quest for freedom and religious tolerance.

From Bethlehem we drove along the fine roads of Pennsylvania to Carlisle, once the home of the famous Indian School noted for its football team. Now it is a training school for the Medical Department of the United States Army. During the Civil war, Carlisle was a busy center. The guard house built by Hessian prisoners during the American Revolution is still standing. In the cemetery near is a monument to Molly Pitcher, the heroic woman soldier of the Revolution.

Night found us at Winchester in the beautiful Shenandoah Valley, famous for its apples. Here George Washington began his career as warrior and statesman; here were born the forbears of Abraham Lincoln. From Winchester Sam Houston went to found the state of Tennessee and the Republic of Texas. At this place McCormick invented the reaper. From this town Sheridan galloped his way to fame, and Stonewall Jackson fought his way to immortality. Here also one finds the great natural wonders, the Luray Caverns at Luray and the Shenandoah Caverns near New Market.

The Blue Ridge Mountains reach their climax in beauty.

We are in the South, for on the soldiers' monument in the Square, one reads "To All The Confederate Soldiers Who Fell In The War." Winchester has many historic shrines; Sheridan's Headquarters, from which he made his well known ride to the battle field of Cedar Creek. Of more recent interest is the birthplace of Admiral Richard Byrd. In the Protestant Episcopal Church is the tomb of Lord Fairfax who died in 1781, to whom Washington served as Surveyor.

Virginia has marked all her historical spots and the state has published a book about these markers. Thus with little effort one can locate any place in which he may be interested. Other states might follow this custom to advantage.

At Charlottesville is the University of Virginia, founded by Thomas Jefferson and directed by him, "that a free public school system is necessary to the well-being of any free people." With James Madison and James Monroe the University was guided during its early years. We were greatly impressed with this University in the foothills of the Blue Ridge, its beautiful grounds, red brick buildings with white wooden columns, cloisters with the flavor of years, where Edgar Allen Poe, Woodrow Wilson and other famous men were educated. From Charlottesville we drove to Monticello, the home of Thomas Jefferson. A rough road leads to the top of the mountain from which, however, one gets a magnificent view. The house and grounds are in excellent condition and give one a very vivid idea of how Jefferson lived. Near by is a fine marble shaft in the family graveyard marking his resting place. A short ride took us to Ash Lawn, the home of President James Monroe, whose name is remembered among other things from the Monroe Doctrine. This small home was designed by Jefferson and built under his supervision during Monroe's term as ambassador to England. It is the opposite of the great estate of Monticello, but the grounds are beautiful.

Night found us in Lexington with the town filled with Labor Day tourists. The next morning we visited the graveyard where Stonewall Jackson is buried. Our visit included also the chapel of the Washington and Lee University to see the Tomb



of General Robert E. Lee. The grounds and buildings are very fine. Here again prevails the colonial type of architecture but very different from the University of Virginia.

From Bryson City we drove right into the "Smokies," which run the entire length of the National Park in Tennessee and North Carolina, excellent roads, some under construction and regions where man has not penetrated. The name "Smokies" is best explained by the late Horace Kephart. "Nearly always there hovers over the high tops and around them a tenuous mist, a dreamy blue haze, like that of Indian summer, or deeper. Often it grows so dense as almost to shut out the distant view as smoke does that has spread from a far off forest fire."

A rough road took us through the reservation of the Cherokee Indians which is in the western part of North Carolina. For four centuries the Cherokees have managed to survive against war and injury inflicted upon them by the white man. They have been imposed upon since DeSoto in 1540 came through the Nantahala Gorge on his gold quest. Twenty-seven "treaties" with the whites were relentlessly broken. The Indians were pushed steadily backward from their coastal haunts until finally they were dispossessed of their land without recompense. Refusing to leave their native hills, a small band remained as outlaws in the place that was later bought for them by a friendly white man. Finally the State recognized them in 1899 by incorporating them under the title "The Eastern Band of Cherokee Indians." Today the Cherokees are said to be better governed than any other Indian tribe in the United States.

Beyond the Cherokee land we began to climb, back and forth, the view growing finer and finer and the road rougher and rougher until we ran into construction work at the top. After about ten miles of this, mostly on the Tennessee side, we drove down to the town of Gatlingburg. The scenery is magnificent and when the road is finished this will be one of the finest mountain drives in America.

Early afternoon brought us into Knoxville and from there we drove to visit the Norris Dam, twenty-five miles away. The dam is being built under the Tennessee Valley Authority on the Clinch River, nearly eighty miles above the point where that

tributary joins the Tennessee River. The dam will be 253 feet high, 210 feet thick at the base, 1,800 feet long at the crest. The waters impounded will form an artificial lake of 3,600,000 acres. The estimated cost is thirty-four million dollars. Norris Dam is primarily a storage dam which will store a year's rainfall from several thousand square miles. Two 60,000 horsepower generating units will be installed. This project is part of President Roosevelt's "planned future." It is intended to have rates that will encourage people to use more electricity and by so doing realize the leisure and comfort that is supposed to be part of life. There is much criticism of the action of the Government in the fact that it will be in direct competition to private utility corporations. Near by is the model town of Norris, a permanent community of economically built but attractive small houses, electrically equipped, constructed to house the workers on the Norris Dam. It is certainly a most interesting sight to see this first step in the attempt to socialize industry.

On our way again through the tobacco and the blue grass country of Kentucky stopping at Harrogate to visit the Lincoln Memorial University. This school is devoted to the education of the young folks of the surrounding country. Harrogate is named from the famous Spa in England. Some forty years ago a group of wealthy English promoters were travelling around the country and seeing this place in Cumberland Gap they named it Harrogate, proceeded to build a huge hotel, lay out walks and gardens with plants and rare old trees sent over from England. An artificial spring was built and filled with plenty of iron and water. When all was completed a grand opening was held with great pomp and ceremony. The Duke and Duchess of Westmoreland and others of the English nobility came over, famous actors, opera singers, such as Lily Langtry, came by invitation but the fake Spa was doomed to failure and the speculators lost all their money. The establishment of the Lincoln Memorial University is in a large measure due to that brilliant young officer General Howard. He was called to Washington in the Autumn of 1863 and told President Lincoln of the heroic service of the southern mountaineers. "I shall never forget the look of that wonderful man as he listened to me," said How-

ard. "Those were his people and his great heart went out to them. He laid his hand on my shoulder and said to me, 'Howard, if you come out of this horror and misery alive, and I hope you may, I want you to do something for those people who have been shut from the world all these years. If I live I will do all I can to aid you and between us we may do them the justice they deserve.'" "That time never came," General Howard continued, "but at the close of the war I decided that my one aim in life would be to carry out the President's wish, and I watched my chance. It did not come for many years, but when it did come I put my soul into the work and now we have Lincoln Memorial University just where Mr. Lincoln would have wanted it."

These southern highlanders or mountain people as they are usually called are a race of the purest American stock. They are overwhelmingly white, 90 per cent being American born, 70 per cent of which are rural and unable to keep pace with our modern civilization. Eight presidents of the United States were born in these highlands, including Thomas Jefferson, Andrew Jackson, William Harrison, Zachary Taylor, James Polk, Abraham Lincoln, Andrew Johnson, and Woodrow Wilson. Contributing to the poverty of these people is the lack of good roads which, however, are now slowly being improved. Railroads are prohibitive because of the cost of building mountain trunk lines. The highlands are rough and broken hillsides, so that much of the cultivation has to be done by hand, at great expense of time and labor. What produce is raised is mostly used by the family. Many thousands of families still live in the most primitive cabins with the outside chimney where the family cooking is done. Hand spinning, weaving of wool, cotton, and flax is common in every family. As a result of these conditions the schooling of the children is badly neglected.

Leaving Harrogate, we journeyed through the historic Cumberland Gap which is situated at a point where the states of Virginia, Tennessee and Kentucky converge. Through this Gap came the early pioneers. Dr. Walker, Boone, Todd, Breckinridge, Clay, Davis, Lincoln, Hay, and LaFollette on their way to the Northwest. In 1570, Dr. Thomas Walker, an English explorer of Virginia, with seven companions were the first white

men to pass through the Gap which they named in honor of the Duke of Cumberland. In 1775 Daniel Boone came through a trail which is known today as Boone's Path and is now a part of Dixie Highway running from Michigan to Florida. During the Civil War, Cumberland Gap, the great pathway between North and South, was occupied by both Confederate and Union soldiers. It is interesting to note how the counties and cities of this region are named from well known places in England like Norfolk, Kent, Duke, Surry, Buckingham, Chesterfield and others.

Our next stop was Berea, another remarkable institution of the South. Founded in 1855 "To promote the Cause of Christ" by providing opportunity for education for young people of the Southern Mountains. From Berea we continued along the Daniel Boone Trail to Danville, Kentucky, the home of the great American doctor Ephriam McDowell, the first man to do an ovariectomy. It is in the negro section of the town with a small dingy barber shop on part of the premises. A bronze plaque marks the house with this inscription—

This House  
Was the home and office of Dr. Ephriam McDowell  
1771-1830

Whose Original Contribution to Surgery won  
Honorable Recognition Throughout the Civilized  
World

Erected by St. Asoph and John Rochester Chapters  
Daughters of the American Revolution  
"To Commemorate His Services to Womanhood"  
1923

In the cemetery not far away is a shaft over his grave erected by the Kentucky State Medical Society, "To The Father of Ovariectomy." It is most unfortunate that the people who own the property on which the old house stands refuse to sell it to the Medical Society. Recently I received a letter in which it stated that the old man who owned the property is dead and it is hoped the son will be more amiable to the purchase of this shrine of American Medicine.

A short run from Danville took us to Shakertown where are standing a few old houses, all that is left of the communistic settlement of the "United Society of Believers," commonly known as Shakers. They date back to 1805. They believed in the celibate life, separation from the rest of the world, the second coming of Christ, in Ann Lee, their founder (born in England in



1736) the gift of prophecy and healing, the abolition of slavery, the equality of men and women in the governing of their affairs and in individual and international peace. They receive their name from the fact that at revival services sometimes as many as 5,000 people would fall shaking in a trance, convicted of their sins by the powerful exhortation of perhaps only a boy or girl preacher. So they prospered for a little as their fine buildings show, houses that were built with two main stairways, one for men and one for women.

Leaving Shakertown we drove to Harrodsburg where we saw the replica of the quaint old Fort and the original log cabin in which Thomas Lincoln and Nancy Hanks were married. On our way to Bardstown, our next stop, we passed the first log house built in Kentucky, by Dr. Walker, the explorer, who was the first white man to pass through the Cumberland Gap. Just outside of Bardstown we visited "My Old Kentucky Home" as the old Civil War estate of Federal Hill is called. That name was popularly attached to it, because it is the house where Stephen Collins Foster visited his relatives and where he composed and wrote in 1852 the old song. The house is completely furnished as in the period when Foster visited there and they still have the desk he used.

From Bardstown we took a little drive out thirty miles to Hodgenville where we visited the birthplace of Abraham Lincoln, now a National Shrine. A magnificent marble building covers the log cabin where the great emancipator was born. The walls are carved with the famous sayings of Lincoln; the grounds are spacious and well kept, a

beautiful tribute to that man among men. Another little trip out from Bardstown was to Gethsemane and the Trappist Monastery, unique in the United States, they glorify poverty.

Fulton is presumed to have invented the first steam-propelled boat but the visit to Bardstown proved otherwise. Little Johnny Fitch, the Connecticut Yankee, was the real inventor of the steamboat. His boat was in operation in 1785, twenty-two years before Robert Fulton's Clermont chugged up the Hudson. The first boat, which was forty-five feet long, ran from Burlington, New Jersey to Philadelphia. He later built a better one which made regular trips between Burlington, Philadelphia, Cester and Wilmington. Fitch made his own, while Fulton had his made in England. He wanted to build a boat that would cross the ocean, but in spite of what he had done he was laughed down and left without support. His life was a succession of disappointments. He went to France for financial aid, but the French Revolution was on and thus another disappointment. Finally he went to Bardstown where he had tracts of land and here he made a deal with a local tavern keeper that for 150 acres of land he would furnish him with bed and board and a pint of whiskey a day for the rest of his life. Then one day he said "I'm not getting off this earth fast enough," and he took twelve opium pills and went to his rest. He was buried in Bardstown in 1788. Now, one hundred and twenty-eight years afterwards, the United States Congress voted \$15,000 to remove his dust from the public burial ground and place it in the village square.

#### THE BEST PAID MAN IN THE WORLD

The physician is the best paid man in the world. He is required to have an education which will be a benefit and a comfort to him all the days of his life. He wins a degree and he attains the honorable title of doctor. He learns to know more intimately his fellow man than any one else can know his fellow. He gets praise for many things that he does not deserve and providence and disease are blamed for his mistakes. He wins the gratitude of those he serves. His charity work is invaluable to his experience. If he is reasonably conscientious and works reasonably hard he builds a practice that will insure him a good house, office and automobile and enable him to rear and educate a family and to stand the losses of the inevitably foolish investments he

makes. If he has a taste for invention there are innumerable unknown instruments and improvements awaiting him. If he wishes to discover, the laboratory is ready for him. If he likes research the facilities and libraries are available. If he craves adventure insidious dangers lurk around him and there are ever pioneer fields to enter. In his endeavors his government, his community and his fellow physicians stand ready to aid him. He is an advocate without a jury, a judge without a court, a minister without a surplice, a business man without guile, a farmer whose soil is the human body and whose crops are human health and happiness and he is a laborer without a boss. The physician is the best paid man in the world.—Beverley R. Tucker, M.D., in *Virginia Med. Monthly*, April, 1934.

## PAROXYSMAL HEMOGLOBINURIA

## Case Report\*

LOUIS JAFFE, M.D.†

NEW YORK CITY

The syndrome known as paroxysmal hemoglobinuria has been recognized as an entity for some seventy years. However, it was not until the classical work of Donath and Landsteiner was published (1904) that the underlying serologic factors, as we know them today, were established. The disease is rare, somewhat less than three hundred cases having been reported, and is sufficiently unique in its properties to merit this report. The following case demonstrates the essential characteristics:

Mr. J. S., a white man, forty-seven years old, by occupation a deputy sheriff, was first seen in the Out-Patient Department on August 2, 1933. The onset of the present illness occurred the preceding fall while he was fishing. Following exposure to moderate cold for two and one half hours, he gradually developed a generalized headache associated with malaise and aching pains in the legs and back. This was soon followed by a severe, shaking chill lasting half an hour, and then by a febrile reaction of short duration. He was conscious of marked weakness and slight drowsiness and upon arriving home was considerably alarmed by the appearance of his urine which was dark red in color. Further specimens were normal in appearance. Four weeks later he again allowed himself to become exposed to cold, a similar paroxysm ensued, characterized at the onset by headaches, general malaise and pain in the legs, loins and back, followed by a chill, fever and the passage of dark colored urine. There was a total of six attacks during the winter, the patient being relatively symptom-free during the intervals with the exception of a gradually increasing dyspnea and weakness. The attacks ceased with the advent of summer.

The family history was negative. The past history reveals the usual childhood diseases, also gonorrhea at the age of sixteen. The patient denies having had malaria nor does he relate any evidence of a primary or secondary syphilis. He is married and has four healthy, living children; his wife has had one miscarriage.

Physical examination revealed an adult white male, well developed and nourished. The skin exhibited a moderate pallor and a slight icteric tint. Scalp was clear. The ears, nose, mouth and throat were negative. The pupils reacted sluggishly to light and accommodation. There was mild bilateral lymphadenopathy of the anterior cervical chain. The lungs and heart were negative. Blood pressure 138/92. The abdomen, extremities and reflexes were normal. Blood Count: Red blood cells 2,980,000; hemoglobin, 72 per cent; white blood cells, 12,200; polymorphonuclears, 62; lymphocytes, 23; mononuclears, 7; eosinophils, 7; basophils, 1. Urinalysis: Specific gravity, 1.012; reaction, neutral; albumin, negative; sugar, negative; acetone, negative; sediment, negative.

Blood Sugar, .093 per cent. N. C. N., 31.5 mgs. Fragility test, .40-.30 (complete hemolysis). Blood calcium, 10.1 mgs. Blood phosphorus, 3.2. Cholesterol, .210 per cent. Wassermann, ++++.

A diagnosis of paroxysmal hemoglobinuria and

secondary anemia was made. A specimen of the dark Burgundy red urine was later obtained.

Specific gravity, 1.022; reaction, alkali albumin, ++; sugar, negative; acetone, negative; sediment—no red blood cells or white blood cells. A heavy, dark amorphous sediment was noted. The presence of methemoglobin and hematin was confirmed spectroscopically. The patient was put on a regime of ferric ammonium citrate 25 per cent and later, intensive anti-luetic therapy. In spite of two paroxysms while under observation and treatment a blood count taken January 15, 1934, showed hemoglobin, 75 per cent; red blood cells, 3,950,000. Dyspnea and ease of fatigue had largely disappeared. The Wassermann reaction is still ++++ at the time of the present writing.

For the interested reader G. M. MacKenzie has presented a comprehensive review of the work done on this disease. Essentially, paroxysmal hemoglobinuria is a manifestation of late congenital and acquired syphilis characterized by intravascular hemolysis upon exposure to low temperature. It rarely occurs before the fifth year in congenital cases, and is most common in the fourth and fifth decades of the acquired type. Symptoms, beginning from a few minutes to several hours after exposure are characterized by chilliness, malaise, aching pains in the loins, legs and abdomen, and rarely dizziness and visual disturbances. Vasomotor phenomena often indistinguishable from Raynaud's disease are not uncommon at this stage; urticarial wheals and erythematous blotches have also frequently been reported. Our patient exhibited none of the vasomotor phenomena.

The next stage is initiated by the characteristic chill and fever, the duration and severity of which are extremely variable. Cases have been reported with either or both absent. At least the first specimen passed unusually shows the typical Burgundy red, or dark brown urine containing methemoglobin, oxyhemoglobin, and occasionally hematin. Erythrocytes are either few in number or absent. The post-paroxysmal

\*From the Out-Patient Department, Harper Hospital, Detroit.

†Dr. Jaffe is a graduate of the University of Michigan Medical School, 1932. He was interne two years at Harper Hospital, the second in internal medicine. He is at present resident in pathology at New York Post-Graduate Medical School and Hospital.



symptoms consist merely of lassitude and weakness, associated with occasional icterus. Intervals are symptom free unless there are frequent paroxysms, in which case a secondary anemia similar to that found in repeated hemorrhage and a rapidly disappearing icterus due to formation of bile pigments from non-excreted hemoglobin, are the only manifestations of the syndrome.

Diagnosis is easily made, the only other really differential factor being the hemoglobinuria of chronic malaria. Perhaps the most dramatic and pathognomonic clinical test is obtained by immersing the hands and feet in ice cold water, whereupon a typical paroxysm occurs (Rosenbach test). The Ehrlich test is carried out by ligating one finger of the patient, immersing it in ice water for several minutes, warming it, then examining the blood below the ligature for hemolysis.

The only efficacious therapy is antiluetic, although clinical improvement may not be evident for some time. Recently Ito and other workers have claimed symptomatic relief following a course of inoculation with the organism of rat-bite fever.

Fortunately, a counterpart of the clinical pathology can be demonstrated *in vitro*. At the suggestion of Dr. P. F. Morse, the confirmatory procedures were done.

1. The patient's oxalated blood was separated into its components, erythrocytes and plasma. The latter and a suspension of erythrocytes were chilled at 5° C. for half an hour and then placed in the incubator for ten minutes. Hemolysis occurred whereas oxalated normal blood under identical conditions did not hemolyze.

2. The patient's washed red blood cells and a plasma from a normal individual were similarly chilled and incubated. There was no hemolysis. With the addition of fresh guinea pig complement there was still no hemolysis.

3. The patient's plasma and erythrocytes of a normal individual when together under similar conditions induced complete hemolysis of the latter.

4. Hemolytic serum was inactivated at 56° for twenty minutes. Erythrocytes were then added and the mixture chilled and incubated under the usual conditions. There was no hemolysis. Addition of complement produced partial hemolysis.

5. The patient's erythrocytes were chilled

and then incubated. Addition of inactivated hemolytic serum and later of fresh guinea pig complement produced no hemolysis.

6. Hemolytic serum was chilled and incubated. Addition of erythrocytes produced no effect.

7. Both serum and erythrocytes were chilled and incubated separately and then mixed. There was no hemolysis.

8. Hemolytic serum and a heavy suspension of red blood cells were chilled at 5° C. for ten minutes. The serum was then removed and added to other erythrocytes. This mixture was chilled and incubated without hemolysis occurring. Addition of fresh guinea pig complement still failed to produce hemolysis.

The conclusions drawn from the above are as follows:

1. The hemolysis, which is both an auto-hemolysin and an iso-hemolysin is present in the serum, not in the erythrocytes.

2. Complement is necessary for the reaction to occur although it does not need to be present during the chilling.

3. Union of the hemolysin and erythrocyte occurs only when both are present at low temperature. The fact that this amboceptor becomes activated only at low temperature in contrast to others of similar nature is perhaps the most distinctive feature of the disease.

4. The hemolysin is evidently used up as a quantitative factor. This may play a rôle in explaining failure to obtain the Donath and Landsteiner phenomenon in our patient immediately after a paroxysm even when complement was added. The preponderance of evidence, especially that of Kumagai and Namba is, however, that there is little fluctuation of the hemolysin titer *in vivo* before and after a paroxysm and that it is probably the complement which is low.

### Summary

1. A typical case of paroxysmal hemoglobinuria was demonstrated in an individual showing none of the clinical stigmata of syphilis.

2. The serologic properties of the disease were demonstrated.

### Bibliography

1. Donath and Landsteiner: Ueber paroxysmalen Hämoglobinurie. Munch. med. Wchnschr., 51:1590, 1904.
2. Ito, N.: Am. Jour. Dis. Child., 46:1062-1065, (Nov.) 1932.
3. Kumagai and Namba: Weitere Beiträge zum Kenntnis der paroxysmalen Hämoglobinurie. Deutsch. Arch. f. Klin. Med., 156:257, 1927.
4. MacKenzie: G. M.: Paroxysmal hemoglobinuria. Med. 8:159-191, (May) 1929.

## MEDICAL INSURANCE\*

G. C. STEWART, M.D.†

HANCOCK, MICHIGAN

The report of the Committee on the Costs of Medical Care has provoked a great deal of discussion as to ways and means of supplying medical care to those of our population who do not receive incomes sufficient to provide a proper standard of living. Medical care for those who are found to be in the lowest of the income groups may be considered under two headings: state medicine is one form and insurance medicine another.

State medicine, to my understanding, means that the state through taxation would create large centers or clinics where physicians on salary supply free medical service to all applying for treatment. As a plan of this kind would be almost impossible of operation and in fact never has been tried out anywhere, with the possible exception of Russia, we shall not take time to discuss it.

Medical insurance is a plan whereby those earning less than a stipulated amount are required to pay a certain premium in weekly or monthly payments which, supplemented with equal payments by the employer, creates funds to enable the employe to receive medical treatment when required.

There are two conflicting theories as to how we are to provide medical care for those who are engaged in manual labor or whose incomes are on the lower levels. The labor unions have always maintained that the worker should receive a wage sufficient to cover all expenditures to assure a decent standard of living, and this includes the cost of medical care. On the other hand there are social workers who say that the workman, no matter how much he earned, would be unprepared to finance the cost of medical service, not to mention the loss of wages from unemployment.

In the United States the physician is the willing servant of the sick, poorly paid, but giving the highest quality of service of which he is capable and the highest quality of medical service given to any people anywhere. Any citizen of the United States who is sufficiently educated may be licensed to attempt the prevention and cure of sickness. These licentiates are twenty-seven or more years old. They must have met educational requirements for twenty-two years, the last seven or eight passed within colleges. As a class, the educational equipment of physicians involves more time, money,

and effort than is required of any other professional group.

There are 123,000,000 residents of the United States, served by 150,000 physicians, a ratio of approximately one to eight hundred. An average of 2,500 physicians die every year, their places being taken by more than 5,000 licentiates. The supply now is adequate and rapidly is exceeding any possible demand.

The distribution of medical service to the entire population admittedly is faulty, but steadily diminishing morbidity and mortality rates in the United States justify the opinion that medical service to all of the people is improving in quantity and quality. It is also true perhaps that more people are adequately fed despite widespread financial distress, possibly because of interested public opinion. It is reported that the babies at the Sloane Maternity Hospital weighed at birth an average of four ounces more in 1933 than in the previous year.

Urban concentration of physicians is not proportionately greater than is prevailing in any other profession, although comparatively few are sensible of the advantages of rural life, with its proportionately greater material reward. Improving road communications are lessening the problems of rural service.

Wherever there are hospitals, the lower income groups, which include individuals whose incomes fall below \$1,200, or families with incomes below \$1,800, are provided with dispensary, or hospital, service of high quality. Hospitals are needed in rural regions and the provision of such facilities always will present difficulties.

However willing the physician, the public is notably unwilling to submit to preventive

\*Read before the February, 1935, meeting of the Houghton County Medical Society.

†President, Houghton County Medical Society.



immunization against such diseases as diphtheria, smallpox, or typhoid fever, and represents interference with personal inclinations by health officials, or by private physicians. Campaigns of education in the prevention of such a tragic destroyer as diphtheria have had extraordinary success while the excitement of publicity is maintained at high temperature, but statistical curves show immediate failure as soon as efforts of the crusaders are relaxed. There are thousands of people suffering from malaria and from smallpox in the United States, all preventable, but persistent because of failure of public coöperation.

Under the egis of philanthropy, sociologists are propagandizing remedies for these defects, and also, prosperity for the underpaid physician, by compelling all the people in the lower income classes to submit to grouping into panels for which medical service shall be provided at low cost, under government control. Schemes are so planned that everyone will have a physician, regardless of his personal desire.

Regardless of whether they have medical service or not, there is no evidence in support of the claim that there is increasing sickness and death among rural people who have low incomes, nor does a comparison with the reports of the Health Department of the City of New York, which includes the largest group of poor people, substantiate such a claim.

It is claimed that the distribution of medical service is an economic problem, but the economic factor goes deeper than the question of medical care. Into the cost of productive labor must go the cost of keeping the laborer productive. The profit is made on labor, and, consequently, labor must be kept cheap enough so that employers may make enough profit from the laborer.

Budgeting for sickness is ideal. Budgeting for anything beyond rent, heat, light and food is unreal. Budgeting through individual, or family, insurance, and payment by an insurance company to reimburse for loss of time from sickness would be wise foresight, but compulsory regimentation immediately involves a setup of administrative jobs which would still further overload the taxpayer.

The propagandists say that there must be "Executives to set up and administer the scheme . . . Professional agencies to care for

the problems of education and investigation, and to administer the professional service," and a "judicial agency combining lay and professional members to deal with complaints and grievances," erecting bureau upon bureau.

In forty-four States, compulsory compensation insurance laws involve similar expensive administrative machinery, which rarely is satisfactory and largely riddled with scandalous racketeering. In small towns the schemes are sometimes meritoriously operated, but in every city in the country they are dominated by malignant influences.

Compulsory health insurance to replace contract practice might be a step forward, but, in the United States, where most of the physicians are "on their own," compulsory health insurance would be a backward step from independent service, however poorly paid, to dead levels of governmental servitude. It is said in this connection that "neither their hands, nor their instruments, need be tied." When workmen's compensation laws cease to fetter the physicians' hands, then it may become timely to attempt another experiment evolved from current painful experiences.

Compulsory health insurance abroad involves regimentation. It has not improved the public health. It can not provide reasonable compensation because of the inevitable administrative costs. Political tendencies are unavoidable. "The cohesive forces of public plunder," quoting Grover Cleveland, "either would raise the cost far beyond the proposed \$35.00 a year for each person, or lower the quality of medical care far below the standards prevailing, or expected among the American people."

The scientific exhibit of the American Medical Association at Cleveland was an amazing demonstration of the accomplishments of American physicians. Study of the individual by the individual has carried medicine to so high a place in public service that it may readily be believed that there is little need for mass medicine.

I believe that most of the citizens of this nation would resent any system which would deprive them of the right of free choice of a physician. Certain it is that present experience with medical care under governmental regulation has proved anything but a boon to the private practitioner; it is unlikely that a more complete extension of the

plan would prove satisfactory to even a small minority of physicians.

The tentative plan of "state medicine" as recently outlined by the Milbank Memorial Fund proposes that the American population, including 62 per cent which the fund's spokesman says receive no medical, dental or eye care of any kind, shall be coerced into supporting financially and yielding physically to the domination of a group of state-employed men. It is difficult to understand why every citizen . . . should be compelled to comply with such a regulation. Incidentally, it is strangely foreign to the legend of the family doctor, who worked under the motto, "To each according to his need; from each according to his means." The source of this desire for state medicine is not the medical profession. Its members have not sought this process of regimentation. The profession will not be regimented

if each member will do that which he rather passively hopes will be done for him by others; take steps to arouse public opinion, each in his own circle of contacts. The very confidence which the individual physician arouses in his patients, will, in the aggregate, prove the greatest menace to this insidious propaganda. In addition to individual effort, organized, coöperative measures are essential. Organized medicine has a potential influence sufficient to drive its opponents to cover. Whatever may be the outcome of this campaign to institute state medicine, the result will be chargeable to the profession; its defeat, to coöperative intelligent activity; its establishment, to a greater or lesser passivity. The responsibility is direct, the challenge clear. The medical profession must solve medical problems; it alone has the intimate knowledge which can furnish an intelligent and happy solution.

## THE PATIENT BEFORE OPERATION

GEORGE J. CURRY, M.D., F.A.C.S.

FLINT, MICHIGAN

If we are to assume that the mere technic of surgery has almost reached its limits, if no further great development of the power of our hands is possible, how is surgical work to advance? There is, no doubt, great room for improvement in two directions. We should seek to obtain an earlier access to our patients and we should use far greater efforts than now seem general, to improve the chances of the patient before operation and to help him after the operation is completed. By methods which are growing in number, he must be restored to a degree of health and resistance which, so far as it is possible, will make the operation safe. Relief from suffering is sometimes no less important than rescue from impending death. Before any surgical operation is undertaken, he must be sure in the first place that mechanical treatment rather than medicinal or any other form of medical treatment is necessary or preferable by reason of its greater experience or greater safety. The widest margin for safety for the patient is the prime requisite. In the second place, the doctor must insure that the patient is in the best physical and mental condition to undergo operation, and finally we must not be content to believe that our interest in the patient ceases if he survives the operation, or on the day when his wound has soundly healed.

Surgery is such a jealous mistress that she requires from her devotee the whole

and undivided service, taking every detail into consideration. Failure to coöperate with the clinical physician, the pathologist, the radiographer, et cetera, in other words, neglected teamwork is the cause of many and perhaps most of the disasters of surgery. There are occasions when delay would be fatal and risks have to be taken deliberately. All the findings should be well organized in each individual case. At the same time, a warning must be given against too much deliberation and too detailed a collection of evidence, whereby a broad and comprehensive survey of the case may be prevented. Our final judgment will rest upon the subconscious summing up of these features. This may be called surgical intuition, and intuition is a state of mind which comes as the result of experience.



The Chinese have a proverb to the effect that "he who deliberates fully before taking a step will spend his life standing on one leg."

One must be careful to avoid becoming biased. One especially dangerous form of bias is that which accompanies all concentration of thought. One may have his eye fixed intently on one point and his field of vision becomes blurred and features of the case are overlooked. The clinician must be careful of fatigue since the judgment of tired man is frequently worthless. One must be careful of timidity. To give opinions and advice which are welcome to the recipient is much easier than to impart evil tidings. If a patient has abdominal pain, a matter that is less trivial but possibly grave, it is essential to place him without undue delay in surroundings where he may be under observation and where suitable operative procedures may be employed if found to be necessary.

Be willing to have a consultation with a competent internist at all times in cases which apparently present a rather grave surgical risk.

An opinion regarding the cardio-renal system of a patient in the fifth, sixth, or seventh decade, about to undergo a surgical procedure certainly gives additional courage if the operation is to be done, and in addition estimates to a certain extent the amount of work that can be done. The respiratory tract of a child is a frequent location of disease which has general manifestations, so that the abdominal pain and associated symptoms may not be the primary cause of the trouble. Have a competent consultant if in doubt. Abdominal lesions are often hasty evils and a case that was favorable yesterday may be past hope today. One must not forget the human element. A short visit by the attending surgeon the night prior to the operation may help to allay some of the fears held by the patient prior to the seance the next morning. This is one of the biggest events of her life. She

is interested in herself and not in case No. 999. A sedative may be useful. The risk in the average young and middle-aged adult undergoing operation, unless the case is one that has undergone the ravages of a long continued debilitating illness, is usually a good one. In the latter instance, a careful weighing of the personal assets of this individual patient and his resistance, is essential.

The various medical schools and surgical internships have stressed the importance of a knowledge of anatomy as being most essential to becoming a good surgeon. I believe that the first place should now be given to physiology and biochemistry of the surgical risk. I do not believe that anyone is more competent to judge the fitness of the aged surgical risk than the genito-urinary surgeon. The physiology and biochemistry of his risk precedes his judgment as to when he will operate. This ought to precede all procedures of an elective character for any anticipated surgery in the aged. The skin and subcutaneous tissues play a part. An amputation pulsation in the radial and dorsalis pedis arteries predisposes to good healing. Also a quick and deliberate estimation of same in emergency procedures. Inflammatory conditions in the young and aged are fulminating. The resistance of the appendix in a child and in the aged is low, and perforation with peritonitis is frequent. By no means can the surgeon shift his responsibilities onto another's back. Specialists are useful and sometimes essential. But, in the last analysis he must be a doctor and clinician.

Lord Moynihan says:

"In the future we must look for advance in surgery not so much to improve methods of technic as to a wiser application of methods now almost perfected. It is therefore, our task to improve surgical judgment and to that end a long survey of past experience is essential, and it is most necessary for us to devote a greater measure of attention to preparation and aftercare of the patient. It is said that surgery has been made safe for the patient; we must now make the patient safe for surgery."

# THE JOURNAL

OF THE

## *Michigan State Medical Society*

---

### PUBLICATION COMMITTEE

J. EARL MCINTYRE, M.D., Chairman.....Lansing  
 A. S. BRUNK, M.D.....Detroit  
 HOWARD H. CUMMINGS, M.D.....Ann Arbor

---

### Editor

J. H. DEMPSTER, B.A., M.D.  
 5761 Stanton Avenue, Detroit, Michigan

---

### Business Manager

B. R. CORBUS, M.D.  
 2642 University Avenue, St. Paul, Minnesota, and  
 313 Metz Building, Grand Rapids, Michigan

---

MAY, 1935

---

## EDITORIAL

### THE MENTAL PATIENT

*The Present Emergency in Michigan in State Care of the Insane* is the title of a thirty page brochure comprising a study by Fred M. Butzel, a prominent Detroit attorney, Dr. Robert H. Haskell, Medical Superintendent of the Wayne Training School and William J. Norton, Executive Vice-President Children's Fund of Michigan. The subject implies a deficiency in Michigan's care of these unfortunate people. The authors have used statistics of New York and Massachusetts for comparison, since these happen to be the most complete available for the purpose. Per hundred thousand of population Massachusetts provides institutional care for 610; New York, 563 and Michigan only 379. New York's provision for the Civil insane exceeds Michigan's by 71.5 per cent and Massachusetts exceeds us by 78.2 per cent. Both New York and Massachusetts exceed Michigan provision for mental disease and defect by 48.6 per cent and 69.8 per cent, respectively.

The writers go on to answer the objection sometimes raised that Michigan as a state cannot afford to provide enough beds for its insane demanding treatment, by comparing

the estimated wealth of Michigan with that of the two mentioned states and with that of several others. The estimated wealth of Michigan in 1912 was 5,298 millions of dollars; in 1930 it was estimated at 11,781 millions. During this interval there had been a decrease in state mental hospital provision of 10 per cent. Massachusetts and New York during the same period had shown an increase of 31.8 per cent and 23.6 per cent respectively, while other states listed Minnesota, Illinois, California, Ohio, Texas and Pennsylvania had all shown substantial increases.

Michigan has suffered very much from the lack of any centralization of responsibility and authority, we are informed in a personal letter from one of the writers of the brochure. The old individual state hospital boards were wiped out of existence in 1921 and the State Hospital Commission created, which was to be the one body to administer the affairs of the entire State program. The State Administrative Board was created with the idea that we would have a cabinet form of government. The natural developments to be expected from such a departure did not materialize. While we had a definite change in form we did not have any new substance created and much of the older substance was lost. Particularly was the sense of responsibility lost.

The booklet contains carefully compiled information on the care and also the lack of it that prevails in this state. Lack of space prevents us going more into detail.

There are many explanations for conditions that prevail here, among them the demands upon state and county treasuries to meet the cost of education and interest on debts incurred in the past due to expansion. One cause is lack of a sense of responsibility on the part of the public at large. State Hospitals and other institutions for the mentally subnormal have been viewed as custodial rather than educative or constructive institutions. The body politic is not yet aware of the advances that have been made by the psychiatrist in a reclamative way. In the face of pressing demands made upon municipal and state treasuries these other institutions have apparently not received the consideration which otherwise might have been accorded them. This is a function of state medicine conceded by everyone.



## TAXES

A subject for perennial discussion. Commenting on the general sales tax, the *Detroit Free Press* goes on to say that, "A general sales tax is a natural tax, which touches the pocket of every consumer, which visibly reminds him that he enjoys the privilege of sharing in the upkeep of the government that protects him, and which encourages him to take an active interest in keeping the costs of government down. The fairest and wisest tax is that which reaches every citizen in proportion to his ability to contribute. Any system of taxation which does not touch all tends to create a tax-paying class and a tax-eating class, a division of the citizenry that is as undemocratic as it is unfair."

We entirely agree. Furthermore the tax should be as democratic as the vote. There has been much discussion regarding the taxing of foods. The sales tax is probably the lightest tax we have on foods. The greater portion of taxes on commodities is concealed in the form of duties which make even many articles produced at home as expensive as the imported product. One merit of the general sales tax is the fact that it is not concealed in the cost of the article. If the various other taxes could be added onto the initial value of the commodity so that the purchaser might see the relation, namely, price of article so much, amount of tax, so much, the old virtue thrift would take on a new significance.

---

### DR. VERNOR M. MOORE

Dr. Vernor M. Moore of Grand Rapids has been appointed by President Richard R. Smith as councilor for the fifth district to succeed Dr. Burton R. Corbus, who has tendered his resignation to take effect immediately. The choice of Dr. Moore is a particularly happy one. He is *persona grata* not only to Kent County, the largest unit in the fifth district, but will prove likewise acceptable to the entire state, for while appointed by a particular locality such a representative should never lose sight of his duty to the whole, whether he represents a profession or the civic population.

Dr. Moore is a graduate of the University of Michigan both in liberal arts and in medicine. He is a past president of the Kent County Medical Society and is at present president of the Michigan Association of

Roentgenologists. Dr. Moore's private practice is limited to roentgenology. He is a member of the American Roentgen Ray Society, The Radiological Society of North



DR. VERNOR M. MOORE

America, The American Board of Radiology and is roentgenologist to St. Mary's Hospital, Grand Rapids.

Dr. Moore, as evidenced by his society membership, has been extremely active in medical affairs. He is popular in his district and is also well known to members of his specialty throughout the state as well as throughout the nation. A man of mature and sane judgment, he is a worthy successor to Dr. Corbus, whose unexpired term he serves as councilor.

---

### NAMES OF SURGICAL OPERATIONS\*

One would be surprised to know how many distinct surgical operations and procedures there are on record. We are all aware of anatomical structures that bear the names of the anatomists who first dissected them out and described them, Fallopian tubes, Poupart's ligament, Fissure of Rolando. Beyond their historical interest such

---

\*NAMES OF SURGICAL OPERATIONS Compiled and Arranged by the Western Surgical Association Through Its Special Committee, edited by Carl E. Black, A.M., M.D., Jacksonville, Illinois. The J. R. Bruce Publishing Company, Saint Paul, Minnesota, 1935. Price \$3.00.

names have no significance. A rose by any other name would smell as sweet. The Anatomical Society which met at Basel in 1895 sought to correct this condition by the adoption of an official international Latin terminology, The Basel Anatomical Nomenclature (B.N.A.). This has been only partially successful inasmuch as many of the old personal names still persist. It may require another generation before the anatomical nomenclature is strictly and universally scientific.

According to Dorland's Medical Dictionary there are 498 operations, 28 amputations, 25 incisions and 53 surgical methods, or a total of 604 procedures bearing the names of surgeons. To answer the implied interrogation with which we began this editorial, The American Illustrated Medical Dictionary by Dorland lists 3,313 operations, surgical methods and procedures. By far the larger number of these have come into being during the past forty years. This has necessitated the invention of new names by hybrids from several languages, by descriptive suffixes and by hyphenates. The Western Surgical Association, through its special committee, has attempted the work of simplification and has been able to reduce the three thousand odd operations to approximately eight hundred. The task has been Herculean and out of all proportion to the size of the volume of the finished work, a book of one hundred pages, including a number of blanks for further study and expansion. The committee adopted the following basic principles for their guidance. (1) Each operation shall have only one name. (2) Each name shall be in English (or a foreign language equivalent) and be philologically correct. (3) Each name shall be as simple and as short as possible. (4) The terms shall be merely memory signs and need lay no claim to description or speculative interpretation. (5) Related terms shall, as far as possible, be similar—*e.g.*: Excision of the Knee Joint; Excision of Ulcer; Excision of Eye. (6) Personal names shall be avoided as far as possible.

The committee have gone about the work in a scholarly way. They have given due consideration to etymology and have endeavored to make the best of a nomenclature that has been to a greater or less extent haphazard in character.

As every medical student is painfully aware, the great majority of our medical

names are from the Greek and Latin—painfully aware, if these languages have not received due attention during his premedical training. Some time ago we listened to an address by a university professor in which he advocated the elimination of Greek from the curricula of high schools and colleges. At the same time he made a strong argument for the study of Latin. It is interesting to note the difference between the Latin influence and the influence of Greek upon the English language. The former is more subtle. It began with the Roman occupation of Britain, but the early Latin influence is limited to a few words and place names. The second influence was that of Roman missionaries to Britain. The third and greatest was that of the Norman conquest in 1,066 when a Latinized Gallic or French was introduced. Dr. William J. Mayo states in a "foreword" to the present volume that the English Language is sixty-eight per cent Latin. The Greek influence is of a different kind. It is limited for the most part to technical terms not only in science but in philosophy. We refer here particularly to Greek influence on the language; Greek influence on modern thought has been tremendous. It has influenced, if not dominated, our modes of thinking wherever thought processes are of a scientific nature. A reading of the pages of *Names of Surgical Operations* will convince one of the importance of Greek as the language of science. The student of the classics would naturally yearn for purity in word formation; yet custom wields a power that is hard to overcome, so we will continue to use such hybrids as appendicitis, venostasis, labioplasty. Again custom will doubtless prevail in such words as uvulotomy or iliotomy in which, according to Professor Costas, the rules of Latin composition require that the final vowel of the first part of the compound be *i* instead of *o*, hence uvulitomy and iliitomy.

The necessity of simplification of the names of surgical operations may not have been felt by the average physician. A perusal of this little book, however, indicates not only the wisdom of such an undertaking, but impresses the reader with the fact that it has been exceedingly well done. This is a book that will interest every surgeon and will be welcomed by all editors of medical journals. The authors realize the fact that no work of this nature can be considered



complete in a first edition. They have therefore invited suggestions which may be incorporated in revisions of the work.

### THE LATE DR. CAROLINE BARTLETT CRANE

The sympathy of his many friends in the medical profession of this state and elsewhere is extended to Dr. A. W. Crane of Kalamazoo in the sudden death of his wife, Dr. Caroline Bartlett Crane. Dr. Crane was a woman of very outstanding personality and ability. Before their marriage she was a minister of the Unitarian Church. Her liberalism, however, was also of the practical kind which led her to advocate civic reforms, as a result of which her work is apparent not only in her own city but other communities as well which through her have experienced a larger civic life. It is a matter of note that few persons have been accorded greater editorial acknowledgment for services rendered, as evidenced by the comment on the life work of Dr. Crane by the daily press.

### MENINGOCOCCUS ANTITOXIN

The development of meningococcus antitoxin is undoubtedly an important step forward in the treatment of meningococcus meningitis. This new biological agent used by Archibald L. Hoyne in the treatment of 85 patients (*J.A.M.A.* 104:980, 1935) was developed by Dr. Newell S. Ferry, of the Parke-Davis Research Laboratories.

In 1931, Ferry, Norton and Steele (*Journal of Immunology* 21:293, 1931) reported experimental studies indicating that the meningococcus produced a specific extracellular toxin. It had previously been believed that the toxic reaction to this organism was due entirely to a substance or substances which are intracellular or endotoxic in nature. Up to this time antimeningococcic serum products had been prepared by methods only slightly different from those used in making the first experimental serums. The antisera in use were primarily antibacterial in nature.

In the first experimental work done on this problem by Ferry and his co-workers, filtrates from bouillon cultures were found to produce skin reactions in a certain percentage of individuals. Later, strains of the four recognized types of meningococcus were used and horses and rabbits were hyper-immunized with filtrates from virulent cultures. Continued experiments showed that the antitoxins were the result of stimulation with soluble toxins and not with any so-called endotoxin or autolytic product. Conversely the lack of neutralizing properties of the antimeningococcic serum must be attributed to the absence of this soluble toxin from the bacterial suspensions with which the animals are immunized.

It was learned that animals injected with all four types of toxin developed antitoxins specific to the

individual types. Thus, a polyvalent antitoxin may be obtained from animals so immunized.

After showing that the experimental antitoxins were capable of neutralizing meningococcic toxin and of protecting against fatal doses of meningococci, Ferry and his co-workers conducted further experiments indicating that by injection of a mixture of toxin and antitoxin an apparent immunity to the disease was produced. This point, however, will require confirmation before it can be regarded as established.

In the clinical work reported by Hoyne it appeared that the antitoxin was much superior to antimeningococcic serum. Twenty deaths occurred in the series of 85 patients treated with antitoxin, whereas 117 deaths occurred in the serum treated group comprising 211 patients. The percentage death rate was therefore 23.5 in the antitoxin treated group and 45.9 in the group receiving antiserum.

The meningococcus antitoxin is administered intravenously and intraspinally. There is reason to believe that the prompt administration of adequate dosage by the intravenous route will usually render intraspinal treatment unnecessary. Descriptive clinical data including an analysis of the cases treated may be found in Hoyne's article.

### FOOD FADDIST

Ah maun', Ah'm aw'fu' gled tae hae ye write a wee bit line,  
About thae silly faddist folk an' diets o' vitamine,  
An' a' th' ither spinach things thats on th' radio,  
Ye gi'ed them a' a mighty jolt an' showed them where tae go.

Losh, maun, ah'm gled ye've come tae Toon, Ah hope ye'll ever stay,  
An' help's tae hae oor tummy fed on three square meals aday,  
O' beef thats roastet sweet an' broon an' porridge i' th' morn,  
An' finnan haddie noo an' then, an' tatties, peas an' corn.

We'll noo hae starvin' diet folk enjoyin' soup tae nuts,  
An' thinkin' for themsels instead o' foll'win' daffy mutts,  
They'll fletcherize their ham an' eggs an' hae a cup o' tea,  
An' fill their bellies fu' o' stuff that suits baith you an' me.

Ah weel, Guid Nicht,

WEELUM.

### STREPTOCOCCIC INFECTION SIMULATING RINGWORM OF HANDS AND FEET

According to James H. Mitchell, Chicago, there is a marked tendency to regard all acrodermatoses as ringworm of the extremities. There is a need for careful laboratory examination of all dermatoses of the hands and feet before arriving at a diagnosis. He agrees with Sabouraud, Macleod, Walker and Roxburgh that impetigo (Tillbury Fox) is due to the streptococcus; this fact can be proved with ease. A group of five cases of streptococcic infections (impetigo) of the extremities simulated mycotic infection sufficiently to lead to errors in diagnosis. The infections were found to yield within one week to baths of corrosive mercuric chloride and weak ammoniated mercury ointment. (*Journal A. M. A.*, April 6, 1935.)



## The Editor's Easy Chair

### JOURNALISM\*

It is just thirty years since I gave up an editorial position on a daily newspaper to enter upon the study of medicine. In my associations during that time I have not met with any erstwhile newspaper man who has entered the medical profession. Many newspapermen have later entered law, and according to a recently published book, "The City Editor," it is not an uncommon thing for young men with a legal education to pursue journalism—or as those engaged in it prefer to call it, newspaper work. There have been a number of persons who have achieved fame in other spheres of usefulness who have entered upon journalism late in life. Among them may be mentioned the late Theodore Roosevelt, Calvin Coolidge and the very much alive Alfred Smith, usually at salaries that made the stipend of the regular newspaper worker appear insignificant.

Within the past decade or so there have been founded schools or departments of journalism in connection with colleges and universities. I know nothing about them. A thorough training in English, history and economics and a few other subjects taught in the universities would be most helpful to the reporter or editorial writer. I have vivid recollections, however, of many first class newspaper men whose preliminary education was limited to high school or to public school. This is not to be wondered at since newspaper work is an education in itself, particularly to those right minded persons with a taste for it. The editorial writer is a student of affairs. He becomes master of written language and language has been called the garment of thought. The newspaper worker as a rule is not inclined to put himself forward. While he cannot be classed as a shrinking violet, his work is usually masked by anonymity so that to readers of

newspapers the paper is an anonymous affair. A great deal of thought and study goes into the editorial pages of many of our best dailies.

We have long felt that it would be a great advantage if members of our various legislative bodies, state and national, might be chosen on account of their special training and fitness for the position of congressman or of state legislator. In other words, such positions ought to be looked upon as a career requiring special training, much the same as medicine or law. In the absence of special means for such a training, journalism seems to afford the best school for governmental representative. We take this opportunity to make this suggestion. Newspaper work, particularly the editorial and reportorial end of it, requires ability of a very high order and only those with versatility, endurance, freshness and clarity of speech survive. I said, "freshness"; perhaps the greatest misfortune that can overtake a writer is to become stale. To digress (a license the editor in his Easy Chair may claim) Sir Arthur Eddington, in the preface of his latest book, "New Pathways in Science," referred to three books written by him in the three years 1927-28 and 29 to the effect that an author has exhausted all he has to say in such sustained literary effort, so that any subsequent writing would be more or less repetitious. The newspaper writer, however, must keep it up; once he begins to slip, he may as well give up for good, since he cannot rest on his past laurels no matter how glorious his efforts may have been. The newspaper writer must also work under all conditions of health, or physical or mental fatigue. He cannot wait for lucid intervals.

\* \* \*

As a profession medicine ranks high in the quantity of writing. Every one is acquainted with numerous volumes of medical text books and other works on medical and surgical subjects, not to mention medical periodicals. Almost every state has its medical journal. There are a few journals that represent groups of contiguous states. There is the national medical journal, the *Journal of the American Medical Association*, as well as a number of special and independent medical journals. There are many excellent medical writers in the United States, many who take as much satisfaction in turning out

\*The reader's attention is called to the article entitled "The Development of Medical Books" in this number of the JOURNAL under the general department of A Moment of Medical History where the writer gives an interesting account of the development of the medical periodical.



a perfect sentence as they do in the acquisition of a perfect surgical technique. It is as difficult to write well as it is to perform a delicate surgical operation and by and large the number of medical writers of the first rank is no greater, probably much fewer, than the number of skilled surgeons. Sheridan once said, "Easy reading makes damned hard writing." A paper which appeals to the reader not only from the viewpoint of subject interest but ease in reading doubtless has cost the writer a great deal of effort. He has probably changed words and phrases, touched up sentences and clauses and revised it numerous times with a craftsman's skill, thus justifying Sheridan's strenuous expression.

\* \* \*

Since many physicians of recent years have turned to hobbies, might we suggest medical writing as a hobby for some—one that may be pursued with all the zeal of a devotee. Writing maketh an exact man, quoth Sir Francis Bacon. Exactness is a quality that is invaluable to a professional man, and particularly to a physician. So far as writing is concerned, a certain technic consisting of the rules of rhetoric must be mastered and the rest involves the personal equation. If a writer has in him qualities that would tend to make an artist, he will meet with some measure of success. The late Lord Balfour was wont to say, "What pleases me most is to write something quietly by myself, to touch it up and to complete it with a feeling that one really has done one's best." Is this not art? and is the effort not worthwhile?

#### TRENDS IN GRADUATE TEACHING

Charles Gordon Heyd, New York, in discussing graduate teaching, gives three distinctive trends in graduate medical education: (1) a research fellowship in pure science, (2) a continuous and periodic re-education of the great bulk of practitioners serving in dispensaries and clinics and (3) the training of specialists. The problem of medical service to the community, so far as the quality of the service is concerned, is largely in the hands of medical schools and voluntary hospitals. Failure of the legislators to recognize the preeminent technical ability of these custodians of medical education will invariably bring about a depreciation in the quality of medical service. Scientific advancement in medical education, in a personal sense, will rest on the ability (1) to observe, (2) to correlate repeated clinical observations and, ultimately, (3) to generalize on these facts. If true science is the power of performance, then a means should be encouraged that will place the prospective student in contact with great clinicians.—(*Journal A. M. A.*, March 30, 1935.)

## A MOMENT OF MEDICAL HISTORY

W. T. D.

### THE DEVELOPMENT OF MEDICAL BOOKS (Continued)

Though books had been printed by the mid-fifteenth century, printing as a method was not immediately adapted to medical purposes. The earliest incunabulae were essentially religious or literary in character. In a few years, printers found it profitable to augment their literary output with fugitive sheets, charts or popular broadsides suited to the tastes of a semi-illiterate population. Pseudomedical and astrological subjects formed a considerable section of such publications. They were the predecessors of the modern almanac. The *Mainz Kalender* of 1457 was a famous example of those works which presented diagrams with the places for phlebotomy and schedules for purging. Astrological data and zodiac figures were similarly included.

Works of a distinctly medical character did not appear till after 1470, full twenty years after the establishment of printing methods. Nevertheless, in a single decade thereafter, over two hundred publications were printed. Two-thirds of the work was done by Italian printers while the bulk of the remainder was done by Germans.

The books consisted of folios with two column pages or quartos having one column to a page, and all were in Latin. Gothic and Latin type characters were equally popular. Occasionally, ornamented capitals and marginal decorations were used as embellishments to break the monotonous regularity of the pages. Actual illustrations made from woodblocks were uncommon, though not unknown. The paper, which was hand made from macerated rags, was unglazed, but smooth, and when held before the light was marked by a grid-like pattern caused by the paper mold. Bindings were usually undecorated vellum or leather. Of the two hundred or more medical books which appeared previous to 1480, the bulk were medieval or fifteenth century authors. There were few which did not present the scholastic or Arabian bias. About thirty publications were translations of Arabian authors. Only a

score or slightly more of the books were of classical authorship, and neither Galen or Hippocrates was represented except as abridged commentaries.

Medical works during the remainder of the century were little different, with the possible exception of improved illustrations in the anatomical and surgical works. Publications were written in Latin although German formed an occasional alternate language north of the Alps. In the last few years of the fifteenth century and in the first third of the sixteenth, a development of incalculable importance to medicine appeared in the use of Greek type characters and the printing of the classical authors in Greek. The physician could now procure accurate texts of classical authors unsullied by Arabian and mediæval commentaries. The new texts formed a background for Humanistic studies which paved the way for modern philosophical and scientific viewpoints.

Throughout the sixteenth century, great numbers of medical works were printed. These included many original works which came to influence contemporary thought even more than classical and Arabian works. The great anatomical folios of da Carpi, Vesalius and Eustachius, the herbals of Brunfels and Fuchs, the surgical works of Paré, the therapeutic doctrines of Paracelsus, the natural history of Rondelet and Gesner are exemplary of the original viewpoint of the period. These works were invariably better illustrated than the incunabulae. By the middle of the sixteenth century, etched or engraved copper plate illustrations, though known for a hundred years, first came to supplement those made from woodcuts. The engraved title page with decorated motifs, allegorical figures or the portrait of an author became distinctive characteristics of sixteenth to eighteenth century books. Publications of the period were increasingly printed in Latin type, of which there were a number of styles. Gothic print was little used in Italy, France and England after the early 1500's.

The dissemination of knowledge by books and universities and the Humanistic viewpoint of the sixteenth century fostered scientific enquiry among a number of scholars. Amateurs vied with ecclesiastical and professional scholars in the enthusiasm devoted to natural philosophy. Local groups gathered to present and discuss new observations,

and advanced workers felt the necessity of keeping contacts with colleagues living at a distance. An extensive scientific correspondence developed and many discoveries were announced in private letters during the seventeenth century. Several scholars of either amateur or professional status, such as Merenne and Oldenburg, acquired considerable reputation through their extensive correspondence. These scientific gossip-mongers served as clearing houses for numerous investigators. If a subject warranted it, correspondence was sometimes included in a major investigation appearing in book form. Occasionally, minor conclusions were presented to the interested public in small pamphlets.

By the mid-seventeenth century, such methods of communication between scientific men were noticeably inefficient, since the success of private communication depended on the friendliness or hostility of writers. Frequent quarrels, such as those between Huygens and Hooke or Newton and Leibniz, were fomented through lack of understanding. The open communication became the solution.

An unusual development which led to the scientific journal was the newspaper. From early times, bulletins were posted in conspicuous places or the news was announced orally. In 1536, a circular appeared for a time in Venice, and from the coin which was the price of a copy, it was known as the *Gazette*. It was not until the early seventeenth century, however, that newspapers began to appear in European countries either as sporadic news sheets or as papers appearing at regular periods. The difficulties of communication among scientific men were eventually solved by methods similar to the newspapers.

From 1633 to 1642, the first serial of scientific nature appeared in weekly pamphlets published by Renaudot and called *Conférences du Bureau d'Adresse*. Though these served as a medium for discussion and information, they were unpopular with the medical profession and were suppressed within less than a decade of their establishment.

Another French weekly appeared in 1665 as the *Journal des Scavans* under the editorship of Denis de Sallo and Abbé Gallois. This publication received the support and the coöperation of such savants as Kircher,



Boyle, Huygens, Pecquet and Leibniz. The *Journal* was the predecessor of all literary and popular magazines. Two months after the French journal, the *Philosophical Transactions of the Royal Society of London* appeared in monthly editions as the standard for all later scientific publications. This journal still persists as one of the outstanding scientific publications of today.

The first distinctly medical journals were the Teutonic *Miscellanea curiosa sive Ephemeridum medico-physicorum Germanorum* and the *Acta medica et philosophica Hafniensia* of 1673. Several other medical journals appeared before the end of the seventeenth century, the Leipzig journal, *Acta eruditorum* (1682), probably being the most important.

It may be noted that the journals were written either in Latin or in native languages. The popular character of many of the journals soon led to the disuse of Latin as a scientific language. French, German and English began to supercede Latin at the beginning of the eighteenth century, and, by 1730, Latin was seldom used in books.

From the beginning of the eighteenth century, the journal type of publication became increasingly popular. The number increased rapidly, in fact doubling each twenty-five to thirty years until the present when several thousand journals are recorded. Though many of these, of course, did not persist for more than a year or two, a surprisingly large number continued for ten to thirty years or more.

With the increase of all types of publication, the necessity for protecting authors and publishers became very urgent. At the turn of the fifteenth century, printers had been given privileges by local authorities, such as the sole right to publication in certain districts. Plagiarism by authors and printers in foreign countries, however, was quite common in the fifteenth, sixteenth and seventeenth centuries, and attempts to mitigate this evil were made from time to time. The first legal privilege granted to Italian printers was made by the Senate of Venice in 1469. Within fifty years, similar privileges were common in most European countries. Early in the sixteenth century, most of the copyright conditions of later legislation had been outlined. During the seventeenth and eighteenth centuries, penalties for infringement of copyright were made in-

creasingly stringent. Occasionally, certain countries provided reciprocal protection for authors, but international copyright as such dates from the Bern Conventions of 1885 and 1887. International copyright in the United States was not enacted until 1891, although various other copyright laws had been passed during the preceding hundred years.

While copyright laws were undergoing change and improvement, the medical journal was assuming a new importance. The eighteenth century saw a great number of medical magazines dealing with subjects of medical, surgical and obstetrical interest. Distinctly scientific conclusions were interspersed with more practical articles or were included in the reports of academies or in special journals.

At the beginning of the nineteenth century, the medical journal began its most significant development. Early American journals, such as the *New York Repository* (1797) and the *Philadelphia Medical and Physical Journal* (1803) appeared at this time. Within the next thirty-five years, such important journals appeared as the *Lancet* (1823), the *Philadelphia* (later the *American*) *Journal of Medical Sciences* (1820), the *Boston Medical and Surgical Journal* (1828) and *Schmidt's Jahrbücher* (1834). During this time, certain journals of scientific character were initiated. Liebig's *Annalen der Chemie* (1831), Müller's *Archiv für Anatomie und Physiologie* (1826) and the *Annalen der Pharmacie* (1832) were representative of such periodicals. Toward the middle of the nineteenth century, the specialization of journals increased. Many of the leading journals of anatomy, physiology, pathology, public health, pediatrics, neurology and obstetrics date from this period. The more general type of medical journal increased in number and many of the now important medical journals were started. These included the *Comptes Rendus de la Société de Biologie* (1849), the *Berliner Klinischer Wochenschrift* (1864) and the *British Medical Journal* (1857) among others.

The territorial spread of the medical journal is evidenced by the appearance of such serials in India, Australia, Tasmania and Canada toward the middle of the nineteenth century. This is shown also by the rise of numerous journals associated with

such medical centers as Glasgow, Liverpool, Brussels, Munich and Bologna in Europe, and Philadelphia, Baltimore, Detroit, Galveston, Cincinnati, Chicago and Kansas City in America. This was also the period of the founding of state medical journals when California, Rhode Island, Iowa and Maine among other states developed journals of usually local appeal.\* A phase of medical journalism for several decades of the nineteenth century was represented by journals of Homeopathy.

Among the more important journals to appear later in the nineteenth century were *The American Journal of Obstetrics* (1864), *The Annals of Surgery* (1885) and *The Journal of the American Medical Association* (1883). During this period and later, a great number of special journals arose reflecting the advances of various medical fields. Probably, the most recent journals which have acquired outstanding recognition are *Surgery, Gynecology and Obstetrics* (1905) and *The Archives of Internal Medicine* (1908).

The large number of periodicals and the continued publication of books and monographs in the nineteenth century speak not only for the interests of medical writers and readers, but also for the activity of printers. Of course, medical literature forms only a fraction of the world's literary output, but the general development of medical literature is typical of the literary facilities which were available in other fields. Such a tremendous production was possible only with the development of technical methods of printing.

In the earliest periods of printing, all paper was made by hand from cotton and linen rags. The sizes of sheets of paper were thus limited to the dimensions of a hand paper mold. This, by the way, led to standard size sheets and the habit of folding sheets to form folio, quarto and octavo pages. After 1798, machines for producing a continuous web of paper were devised and improved. The impetus to printing which this method allowed was somewhat counteracted by occasional shortages of suitable rags for paper making. After much experimenting, wood pulp came to supplant and finally, about 1880, to surpass rags as a

source of paper making material. It was not, however, until the period of the World War that wood pulp paper acquired the durability of rag paper. Paper used in printing between 1880 and 1910 has become discolored and brittle with age so that the future preservation of books of this period will become a serious problem for libraries. These books are disintegrating more rapidly than those made during the fifteenth and sixteenth centuries.

For two hundred years after Gutenberg, printing presses were similar in principle to the earliest presses used. They were wooden affairs which stamped the sheets one by one. By 1800, iron presses were developed and within fifty years of this time, the mechanics of presses were improved. Cylinder and automatic presses, the rotary press and the stereotype process came into use. Inking rollers and the ink itself were improved during the early nineteenth century and typesetting machines of a practical sort appeared in the latter half of the century.

It has already been noted that woodcut and copper plate illustrations were as old as printing with movable type. Book illustrations prepared from wood or copper approached a fine art in the sixteenth, seventeenth and eighteenth centuries. Such methods of handicraft, though expensive, served as the sole type of illustration till after 1798 when one Aloys Senefelder invented the process of lithography. This process during the nineteenth century became the important medium for reproducing elaborate scientific drawings. Several colors and soft gradations of tone were possible. Some years after the development of photography and after much experimenting, photographic methods were finally adapted to book and magazine illustration. The zinc etching appeared in 1860 and, by 1880, usable half-tones were developed. The modern half-tone dates from 1891, and a year later a successful three color process was invented. Simultaneously with the development of half-tone engraving came the process of photogravure.

Up to the nineteenth century, books retained a certain degree of uniformity in both their printing and illustration. Following this time, bookmaking deteriorated in quality as it increased in quantity. Many of the illustrations, however, were excellent and were exemplified in a number of

\*The extent of local medical publication during the latter nineteenth century may be gauged by the number of publications which appeared in Michigan. From 1848 to the establishment of the *Journal of the Michigan State Medical Society* in 1902, no fewer than fifty-two journals appeared.



beautiful atlases and morphological papers. In the latter third of the period, zinc etchings and half-tones gave rise to less elegant illustrations. On the poor wood pulp paper of the time, books with simple mechanical illustrations of the 1870's and 1890's represent the nadir of the printers art. Toward the end of the century, mechanical perfection in illustrations, new designs of type and the energy of a group of outstanding printers resulted in a new development in the bookmaking art which is reflected in modern textbooks, monographs and journals.

## COMMUNICATIONS

### PRESIDENT RUTHVEN PROTESTS

University of Michigan  
Ann Arbor  
President's Room

April 22, 1935

My dear Dr. Corbus:

During the past few months, rumors have come to me that some of the members of the Michigan State Medical Society were holding the University responsible for certain changes in a bill passed in the 1933 session of the Legislature in which no provision was made whereby the medical profession received remuneration for services rendered in certain cases in local hospitals.

University authorities knew that no members of the University faculties were connected with this matter either directly or indirectly and we were pleased to learn that this fact had been brought out and accepted at a meeting of the executive committee of the Council of the State Medical Society, held in Lansing early in this year.

A few days ago, the Ingham County Medical Society, through its President, Dr. Harold Miller, and its Secretary, Dr. Russell Finch, sent me a telegram protesting against alleged opposition and lobbying against Senate Bill No. 277 by members of our faculties and other employees. Knowing this charge to be as unfounded as aforementioned rumors, and considering it a grave affront to a state institution, I telegraphed the Ingham County Medical Society for an immediate withdrawal of the charge, making it clear that, if said charge was not withdrawn, I would be compelled to place the matter before the Governor and Legislature for investigation. Within a few hours, the officers of the Ingham County Medical Society communicated with me, withdrawing their charge and acknowledging their belief that no basis for it existed.

I am giving you the above information in order to assure myself that all of your members will be equally informed upon this matter.

Sincerely yours,  
ALEXANDER G. RUTHVEN

### APPROVES EDITORIAL

To the Editor:

Permit me to congratulate you on your editorial "Lay Control." I suggest, however, that you remove

your padded gloves and strike bare handed. Why not say this law is for the Class A hospitals and those permitted to work therein? Why not make ability predominate? What difference does it make where the work is done if the work is done properly?

A doctor has his office equipped to do nose and throat work, not with student nurses but graduate nurses of years' experience; not with new interns but a fully trained graduate doctor, one who had two years' training in one of the best hospitals, besides ten years of active practice. Everything else in proportion. He cannot do this work because his office is not an A Grade hospital. You see it is not the ability of the doctor which counts. It is merely a question of whether he has the good fortune to have some kind of pull to get on the staff of an A grade building. About twenty per cent of the time that is ability.

When medical laws do not favor the profession as a whole and give the public the right of choice of their doctor they are wrong and should be changed.

HUGH HARRISON

Detroit, April 17, 1935.

*Note.*—We are informed that so far as the Wayne County Medical Society is concerned there is no discrimination in favor of any hospitals in Wayne; all qualified should be eligible including their staffs to participate. In justice to all qualified physicians none who is willing to assist in the care of this class of patient should be denied the privilege of doing so. However, the regulations or laws are not made by the medical profession.—EDITOR

### SHOULD THE NUMBER OF PROFESSIONAL STUDENTS BE RESTRICTED?

In seeking an answer to the question of whether the number of professional students should be restricted, Raymond Walters, Cincinnati, presents facts as to the actual numbers in the professions, giving them in clear and orderly fashion without statistical details, and quotes views of advocates of differing interpretations and proposals, embodying the material which members of the Committee on Standards of the American Council on Education cooperated in gathering and which the chairman of the committee has assembled and summarized compactly and objectively. The author ventures an opinion, which seems to issue from the facts and from other related facts and circumstances, that most of the perplexities will clear if the problem is approached from the angle of quality. By quality in the physician he refers to expertness, character and personality. It seems to him that, if the doctrine of quality first is accepted, the determination of quality among candidates for the medical profession may well be left to the medical colleges. If so, there will probably be a solution of the question as to numbers in the profession—a solution that issues from the economic conditions in which the profession finds itself. The gifts that trickle in should be assigned not for more enrolment but for more research and for improvement in teaching facilities. Each medical college should resist the temptation to take more students merely to make money. Each medical college should hail quality as its obligation and goal as never before. In this policy there should be concurrence by the Council on Medical Education and Hospitals of the American Medical Association, by the Association of American Medical Colleges, and by the Federation of State Medical Boards of the United States. (*Journal A. M. A.*, March 30, 1935.)

# DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

## ANNUAL CONFERENCE OF COUNTY SECRETARIES

University Hospital, Ann Arbor, Michigan  
March 27, 1935

The forenoon session of the Secretaries Conference was devoted to an excellent Clinic conducted by Doctors C. C. Sturgis, John Dorsey, Udo Wile and F. A. Coller. Between 50 and 60 secretaries and officers of the Society were present.

Luncheon followed at the Hospital.

## AFTERNOON CONFERENCE

DR. B. R. CORBUS: Gentlemen, I know that you had an enjoyable morning, and I know that you are going to have an instructive afternoon.

There was a book written recently under the title, "Life Begins at Forty." Paraphrasing this title someone has said, "Life begins when you leave the Grandstand for the Arena." Life begins for the County Society and for the State Society when in growing numbers its members step from the grandstand, where he applauds and criticizes, a bit more criticism than applause as a rule, and gets down into the arena and works for the Society.

The plan which Michigan has followed where we pull a man down from the grandstand into the arena by giving him an important committee appointment, works most effectively. It has been the feeling of the Executive Committee and the Council that the more men we could get to work in the State Society the more interest would be taken, the more loyalty developed, and the further we would go as a Society. Certainly you have already discovered that that is true in your County Society. There comes a time, of course, when some of us will step from the arena into the grandstand and let the younger man do his job. When that time comes I hope I shall be one to encourage and help, and not criticize. Get your men down into the arena, you men who are secretaries of county societies, and put them to work.

From time to time the Council has considered the employment of a full time secretary. Such a matter is under consideration now. There are certain advantages in having a full time secretary, and there are certain very distinct disadvantages, be he a lay secretary or a medical secretary. As I observe the activities in states who employ a full time secretary I note that there is tendency towards the concentration of more and more of the society activities in the central office—work that I think should be done by the members. Although I admit that sometimes that work might be done more efficiently in the central office, it might not be done so advantageously. I have a tremendous appreciation for those men who work on important committees and it has been Michigan's plan to delegate much work and much responsibility to committees. You see in the record as noted in the JOURNAL from time to time, the amount of work that is being done, the accomplishments that have been made, but it does not give a real picture of the amount of work it takes to bring forth these results.

During the afternoon I hope that there will be time for some discussion of the things that are uppermost in your mind, things aside from the economic problems which are before us and the legislation which is under way in Washington and in Lansing.

I think we will have a member of the Legislative Committee here later, who will tell you about their work. They want your help. They believe, as I do, that the work which you can do with your own legislators in your own community, is of the greatest importance, more important than anything else that can be done in furthering good medical legislation and preventing bad.

One more word and I am through. Our minds are full, these days, of the general economic situation. We are so concerned about the economic future of medicine, probably a greater concern than is justified, for I cannot believe that we are going to be regimented. I cannot believe that the mass of doctors is going to be overwhelmingly embarrassed by any federal legislation. I see the probabilities of a change in the pattern of medical practice, but I think we will live through it, and I do not think that medicine is going to suffer scientifically. I note with some concern the amount of time that you give to a discussion of economic problems and to discussions anticipatory of possible things which may happen, to the neglect of real scientific medicine. After all, if we are to go forward, if we are going to do things, we must make an earnest effort to advance the scientific side of medicine. And so I urge you, secretaries, to not neglect the scientific part of your program. In your meetings you frequently become involved in some discussion of economics. When this happens in the first part of the program you rush through the scientific portion as best you may. May I suggest that you put your scientific program first and let your members stay until three o'clock in the morning if they want to continue the discussion of the economic situation.

It has been customary for this body to elect its own chairman.

Dr. Russell L. Finch of Lansing was unanimously elected chairman and took the rostrum.

DR. R. L. FINCH: The first talk on the program is by Dr. Julius H. Powers, the Council Chairman, who will give some introductory remarks.

DR. J. H. POWERS: Mr. Chairman, County Secretaries: My position on the program is sort of an extra. But I do want to express, as coming from the Council, the pleasure that so many of you are here.

I feel that the county secretary is to our state organization very much the same as a millwright is to a factory. You know, it is the millwright's duty to keep the wheels moving. If anything goes on the hummer, the millwright fixes it up. If there is a new machine that has to be installed or introduced, why, it is up to the millwright to do that. And that is exactly what I figure the average medical secretary must do in his county. He must keep the wheels moving. He must install the new ideas, present them to the society, so that the society will be able to pick them up.

We of the Council, more than the House of Delegates or the rest of the society, get to know which of you secretaries are the most efficient. We know



that certain societies always have a good program and everything is running along smoothly. We also know that in certain other societies things are liable to go along in a rather haphazard way. It was with that idea that the Council decided on having these yearly meetings of the county secretaries, our idea being to give you a little bit of pep, a little more ambition to put your society on the map. You know how we figure the pep curve. I figure that when the pep curve of a county society is on the up-grade, going up all the time, everything is all right with that particular secretary; but when the pep curve and activities are on the down-grade, why, in some way that secretary is falling down.

The last word I want to leave with you is that you have your local problems, we of the Council have our many State problems, but we are all interested in both. The Council would be very glad to have you write either to your councilor or to your state secretary in regard to these troubles as they come up, because many of them can be ironed out in an easy and simple manner. Don't be afraid to write to your councilor. He will be on the job. He knows what is going on in the inside. He can be of a lot of service to you, and your state secretary, too, can be of a great deal of service to you.

We have one little plan in Saginaw, which I am going to transmit to you as being something worth considering. We don't mix our business and our scientific programs any more. We have special business meetings that deal with the business problems of the county and the politics, et cetera, that come up before the local organization. When we have our regular monthly meetings they go as a scientific meeting, purely and simply. That works well in our particular locality. I don't know that it would work in other localities, but with us it does. I feel the same as Dr. Corbus: that it is a great mistake to put in too much time on the business end of the thing, to the discredit of the scientific side of your county meetings.

I thank you.

\* \* \*

DR. FINCH: Mr. William J. Norton was unable to be here today to talk on the subject of medical relief in Michigan; and Mr. George F. Granger, who is the Field Secretary of the FERA, will speak to us.

### Medical Relief in Michigan

MR. GEORGE GRANGER: Secretaries of the county medical societies:

I regret that Mr. Norton was unable to be here today, because he is probably the foremost social worker in the State and he has given particular and great attention to this topic of medical relief. He is a member of the State Emergency Welfare Relief Commission. He has studied its workings as you have seen them function as a part of our program.

I think it might be well, before outlining our medical relief program, if I covered briefly the situation as it exists in the relief program and in the relief situation in Michigan.

In less than two years after we had our famous break in the stock market in the fall of 1929, an unemployment census in

Detroit showed that at that time 223,000 people were out of work, or about 37 per cent of the people unemployed were normally employed. In January, 1931, the next year, it had gone down to 41 per cent; and in checking the payrolls in the factories in Detroit, it was found that for every dollar that had been paid as wages and salaries in the period from about 1926-1928, only 28 cents was being paid in payrolls, as compared to the previous amount of one dollar. Possibly that shows to how great a depth we had actually fallen.

At the present time we have close to 200,000 families receiving relief in the State of Michigan. The average members of each family are about 4.2, which means that on relief we have from 800,000 to 900,000 people in Michigan—nearly one out of five. That is the problem, one of the problems with which we are confronted.

In the old days when we gave relief we usually considered that we were giving it to the laborers, the common wage earners. It is changing now. Of the people on our relief rolls, about one out of every four is skilled or semi-skilled, including some professional men. There are nearly 7,000 engineers on relief, over 5,000 salesmen, between 4,000 and 5,000 office workers. About 10,000 non-manual workers, which is the higher type of occupation, are on relief at the present time.

At first, we tried to meet this as we had been accustomed to in the past—by drawing on the funds of private organizations. After the first year, they were exhausted. People who had contributed to such organizations were unable to contribute as generously as they had in the past.

Local groups then began to look toward tax funds for the care of these people. At first, local cities tried to meet the relief problems with their local funds; but soon they too were exhausted.

As a result, our Federal Emergency Relief Administration was organized about two years ago, in fact, a little less than two years ago. In Michigan the State Emergency Welfare Relief Commission was organized in the summer of 1933. It is not yet two years old. It had to start from scratch. It had no organization which it could use to distribute this relief and which it could use as channels through which it would distribute the different types of re-

lief, such as medical relief. It had to start an organization; it had to start everything from nothing. When you know that we are taking care of nearly a million people, you can see what a problem we had on our hands to do in that brief time.

Before I touch on the question of medical relief, let me call your attention to the fact that in general there are three types of families whom we are supporting: (1) one group, that type of families in which there are no employable persons. That is the group where either the wage earners are dead, there are no wage earners, or they are all crippled or handicapped. We cannot consider that they ever will be able to support their families. We will always have them on relief; we must permanently take care of them. (2) We have a second group of the pseudo-unemployable, people who are in the twilight zone, who actually can work, but for whom it is difficult to get jobs—men who are getting older, and whose alertness and intelligence are on the lower border line; in fact, that type of people who are the last to get jobs. (3) Then we have our large group of people who are definitely employable and who want to work, but there is not a job waiting for them.

In taking care of these different groups, we have to realize that their wants are many. We have had to realize that they need groceries. We have had to realize that they must be given shelter. We have had to realize that they need food, that they need fuel, that they must have clothing, that they must have medical care.

Within a few months after the Federal Emergency Relief Administration was organized in Washington, it started operations; it issued several pamphlets, setting down certain general policies which must be followed out by the state organizations in distributing federal relief funds in the states. They set forth several very interesting premises and programs, and I think that as far as we are concerned, as far as you are concerned, their program of medical relief is one of the interesting steps which they took. Up to a little more than a year ago, I think we will all admit that the common method of furnishing medical relief, outside of the private charity work which was done by the doctor, was through clinics and organizations furnishing paid service of that kind. However, the FERA set down a new principle. It said that in taking care

of the physical needs of these people on relief that the traditional relationship of patient and physician should be preserved, if possible. I think that was a new step. If my understanding of physicians is correct—I am not a physician, but I have many good friends who are—it is something which physicians have been striving for for a long time. They want such a recognition of themselves in charity work as in private practice.

We have taken the same step in regard to some of our other programs. At the present time, instead of having a commissary, where a relief client goes in with a basket, and collects his food, we have abolished all food commissaries in Michigan, with a few exceptions, and we have given the orders to private citizens. So we are following the same practice right through.

In addition to this, it was laid down in the program that the funds voted for medical care must be used only for the care of welfare clients in the home or in the office of the physician. In other words, no FERA funds may be used for the hospitalization or institutionalization of any persons or families. One of the reasons for that is this: federal funds appropriated for this purpose were not appropriated to take over the functions and the departments which were already functioning, but merely to supplement and augment the facilities which they could furnish. It is very common for people to kind of stick out a hand for federal appropriations; they like to make a little pork barrel out of it. And many of our cities lean the same way. They see large federal funds being appropriated, and they say, "Why should we use our money? Let's use federal funds." So to prevent this, it was said that these funds could be spent only for private unemployment medical emergency purposes; that medical care in hospitals must be taken care of by the local existing agencies.

In the fall of 1933, in November, in fact, the State Emergency Welfare Relief Commission met with representatives of the State Medical Society, and a medical program for Michigan was adopted at that time. This program, in most particulars, follows the federal program which had been sent us. The program lays down certain general rules and regulations. It also lists a brief number of maximum fees which may be paid for certain services. This program



has not been changed. It was supplemented in January of this year, 1935. I call your attention to that because within the last week I found an affidavit on my desk which was sent by a physician to the Governor of the State and was forwarded to our office, protesting against the frequent changes in our medical program. As far as the state is concerned, there haven't been any changes. The program was adopted in November, 1933, and was supplemented in January, 1935, but not changed, and it still stands as those two programs were written.

I would like to pass over this and touch some of the high points that are covered in our medical program. I think that probably, if there are irritations in your local counties over this caring for people on relief, they are due, for the most part, to the fact that our program hasn't been explained sufficiently and in detail to those who are participating under it.

In the first place, payments must be made directly to the physician. We are not able to sign a contract with any other person or with any county medical society whereby a lump sum is paid directly to that county medical society and then distributed to its members. Outside of that one point, however, any of our county commissions are eligible to sign a contract with any county medical society for the care of indigents in that territory. But the physicians who render those services must be paid directly by our commission, with our FERA checks.

As I stated before, we are endeavoring, in so far as practicable, to maintain the traditional relationship which has existed between a welfare client and the physician.

It is a further ruling that in so far as possible the work should be distributed among the physicians of the county with as great an equity as possible. I think that you can see that it is a manifestly prohibitive procedure, which we could not follow, to allow patients from one end or corner of the county to go to the further corner of the county to secure a physician whom we have to pay 25 cents a mile mileage. Naturally, we should prefer them to pick the physician who is nearer to their residence. I know of one county where they have four physicians in the county, so they divided the county up in four sections, mutually among the doctors. Each physician said that he would handle the people in his section.

Only those persons are eligible to receive medical care who are on relief. Persons are not eligible, and doctors are not eligible to use FERA funds for medical services for persons who are not on relief. In other words, I am speaking of the border-line case. A man may be earning a small salary. He is getting enough to get by on, but he doesn't seem to have enough money to pay his doctor. Our FERA funds cannot be used for those families. The family must be on relief before we can pay for medical services. Apparently, in some of the counties, that has caused some confusion, because some of the doctors have felt that they should be paid for medical services for that type of indigents. However, it is impossible, as our program is set up at the present time.

There are other types of individuals who are also ineligible to have FERA funds paid out for their medical relief—those people who are chronically ill, with certain exceptions. Those who are chronically ill should be paid for from local tax funds or other sources, but not from emergency unemployment funds. In a few counties where there have been no local funds, where the taxing power has been exhausted, certain exceptions have been made. But in general, it is our ruling that chronic cases cannot be cared for out of FERA funds. That is the problem or responsibility of the local board of supervisors, the local superintendent of the poor, or whatever form for local relief you may have. In any case, we cannot take care of any chronic person for a period longer than three months and make more than one call a week on that person.

One of the points of irritation, I fear, on the part of physicians is the fact that it is necessary to secure an authorization to give services to a person on relief. The doctors, apparently, who get used to it don't mind it so much. I presume that if I had never had to do anything of that nature I would feel the same way. But you know, I am afflicted, the same as you are afflicted, with these people called "authorities," and there are certain definite rules and regulations specified for the protection of the use of federal funds. We are spending pretty close to \$6,000,000.00 a month of federal funds in the State of Michigan. An immense number of millions is being spent throughout the United States, and it is not only inevitable, but necessary, that very

definite rules and regulations must be drawn up to safeguard the handling of those funds; and this is only one of the ways in which it is being done. We may sympathize with you in your desire not to have to go through some of the difficulties of the "red tape," but we can't get away from these orders, and they have the right to refuse to pay any bill which is presented in a different method than state or federal regulations prescribe. I don't know of any way to get around it, because it is a fact we have to face, and we just can't get by with it.

Our state program recommends that every county medical society establish an advisory medical committee. We recommend that this committee should meet with our county relief commission, and that mutually they should draw up a local medical program within the policies outlined in the state medical program. We also recommend that any differences of opinion, any issues which may arise in regard to local medical services, be referred to this county advisory medical committee for settlement. I can frankly say, and very truthfully say, that it has been our experience that in the counties where there are advisory medical relief committees and where these committees actually function, that our problems have been minimized; in fact, we have very few problems, as far as we know of, in the state office. It seems to me that when representatives of two groups get together—those administering relief and the physicians furnishing medical relief—and talk problems over, and understand each other's viewpoint, pretty soon these doubts are cleared away and there is very little hard feeling. We are urging our county relief administrators to approach the county medical society and suggest to them that they organize such advisory committees.

I think in general I have covered most of the points in our medical program. I don't know, Doctor, whether you want any questions asked.

DR. CORBUS: Yes, I should like to have questions asked if there are any who so desire.

Q.—What would you do in an emergency case where you cannot get in touch with the investigators?

A.—I am very glad to have you ask that question. The question is: What can be done in a case where a physician cannot get in touch with emergency relief administrators and get an authorization?

The answer is this: We have made a special dispensation in cases of emergency. If an emergency exists, a physician may make the call and inform the county office of the county welfare commission after the call is made, and if it is a justified call a retroactive authorization will be given.

Q.—I should like to ask this. During the last month orders have been issued that on order slips the physician shall state the diagnosis when he returns the slip to the welfare department. Yesterday an attorney called me, saying that one of his clients had been refused occupation in one of our local factories because the physician had turned in a slip saying that the person had epilepsy. Is that turning in of the diagnosis giving away confidential information, and are we likely to get in trouble? We are faced with a lawsuit.

A.—That is a very good question. It is a very difficult question to answer. Here is the situation as we see it. Regulations state that diagnoses or complaints as given by the physician must be listed on the orders. On the other hand, we do know that you are not eligible, theoretically, at least, you are not supposed to be eligible, to furnish that information that is confidential information. A good share of physicians, however, are furnishing that information. They are furnishing it in other situations, in questions involving insurance companies, and other situations.

Today we have to have it. We can't pay out funds unless we do have it. If it is insisted—if the doctor, rather, maintains that it is private and confidential and that he can't give it out, the only thing we can do is to secure a consent from the patient on the authorization or receipt to allow him to state on this order his complaint, or we will have to refuse to pay it. That is the problem we are up against, the same as you are. If anybody can answer it better, why, I would be glad to have suggestions.

Q.—It should be kept confidential, though?

A.—Oh yes. There is no question about that. I don't understand yet; in fact, I would like to have that specific case looked into. I don't understand how the information could have got to any factory, because it is confidential information as far as we are concerned. I know of two of our larger cities in the state which have demanded of our relief commissions—and these happen to be cities that are appropriating approximately one-third of the relief funds—and they have demanded of our local relief commission that we furnish to them a list of our welfare clients and the amount of the funds which have been given to those clients; and we have refused, saying that that is confidential information.

Q.—What is supposed to govern the conduct of an investigator, along that same line, of giving out information that is supposed to be private?

A.—Any information which the investigator gets is supposed to be confidential. If it is not confidential, if you will give us the facts, we will look into it.

Q.—Where would you take such a complaint—to the local office or to the state office?

A.—Either place. We are perfectly willing to receive it at the state office, and we will have our investigators look into it.

Q.—In case of making a second call before you can reach the investigator (which must be authorized by the investigator) what does that do to your malpractice insurance, your protective insurance?

A.—I don't know just what you mean.

Q.—Supposing your patient is in such a condition that you should have to go back. You have no authorization to go back.

A.—I guess that is a chance you have to take.



Q.—You are responsible if you do not go back, and you get nothing if you are not authorized to go back?

A.—That may be one of your charity cases. I don't know.

Q.—A welfare case.

A.—If it is a welfare case, I don't see any reason why you shouldn't be paid for it.

Q.—You make one call, but you must be authorized before making a second call. You may not be able to get in touch with the investigators.

A.—In case of an emergency again?

Q.—It may be an emergency case.

A.—I don't see why it couldn't be handled under the emergency ruling again.

Q.—Is there a uniform schedule fee?

A.—There is a limited uniform schedule fee.

(At which time Mr. Granger read a list of the schedule fees.)

Q.—May one do surgical work in his office?

A.—He may if he certifies that there is no more danger concerning the operation in his office, and also if it is impossible to get the patient in the hospital.

Q.—Where do you draw that line in chronic cases? Some will tell us that if the person is sick over two months, it is a chronic case. Then if there is another patient who takes sick in that house, that is a chronic case.

A.—There is no definite line on chronic diseases. In general, though, most people, certainly most physicians, have in mind what they would call a chronic disease—chronic, as we consider heart disease, diabetes, et cetera. I might say that within our regulations we allow county commissions to draw up their own rules. It might be that in your particular county—what county are you from?

Q.—St. Clair.

A.—As I understand it, they consider a case chronic after the patient has been ill for two months.

MR. GRANGER: You might be interested to know what the medical program is costing us at the present time; that is, exclusive of funds paid by local counties or boards of supervisors. In January we spent about \$211,000.00 for medical care. That was an average of \$1.07 per case on relief per month. And that did not include all medical services which were paid for out of local funds or charitable organizations.

Q.—In view of the fact that you suggested that an advisory committee to work on some of these county problems be organized, would your organization recommend a similar committee of a state character, embodying the nurses, dentists, and physicians, for the same purpose? If it is a good county way, wouldn't it be a good state way?

A.—I understand we have such a committee composed of doctors, dentists, and nurses, and some of the doctors on the committee met with us two or three months ago.

\* \* \*

DR. FINCH: I am sure we are very grateful to Mr. Granger for presenting this report.

Dr. C. T. Ekelund, secretary to the Committee on Economics, will now address us.

## The Economics Committee

DR. C. T. EKELUND: Doctor Marshall, chairman of the Economics Committee, has asked me to summarize for you the aims of that committee as at present conceived.

With your permission I should like to go back and review the history of that committee. You are all, no doubt, familiar with the voluminous and detailed statistical material which was made available to the profession in the report of that committee in 1933, and also with the general principles which it formulated for subsequent study to elaborate. Whatever differences of opinion may have arisen concerning the ultimate recommendations of this committee the veracity of the statistical material has not been refuted and it stands today as a most complete statement of fact concerning the economics and social aspects of medicine in Michigan.

A continuation of the work led to the elaboration of the plan now known as "Mutual Health Service," which was conceived as a mechanism for collectively budgeting the costs of medical service for families and individuals of small means. The pioneer work done here has been widely publicized and has probably been of great value in orienting the several aspects of the problem as well as pointing the way to a possible solution compatible with American principles. The Canadian Medical Association has formulated principles of their own strikingly like those upon which "Mutual Health Service" is based and our own A. M. A., while deprecating the necessity for health insurance, has set up a table of principles likewise generally concurrent with those adopted here in Michigan a year and a half ago.

The House of Delegates did not feel that it was ready to proceed with any experimental test of the plan as proposed, and decided to wait before further discussing the matter until, or if, federal or state action rendered it more imperative to give further attention to the matter. Following the appointment of this year's committee it was authorized by the Council to proceed with two other matters of considerable importance, a further study of Post Graduate Medical Education, and a survey of medical relief under the State Emergency Relief Administration.

Your committee is now going forward with a study of the results of the new departure in Post Graduate Education which was undertaken in three centers in the State last fall in conjunction with the Department of Post Graduate Medicine of the University, with the view of ascertaining its value and the indications for its expansion.

The second study of the committee is also under way. After several conferences with Doctor Haber of the State ERA a general view of the administration of Medical Poor Relief has been obtained. However since we began this work the FERA has decided to make a rapid intensive survey in some eight or ten counties of this State in order to arrive at some idea of the efficiency and costs under several different types of administration. We understand that this program is not limited to Michigan but since Michigan offers in geography and population a condition analogous to almost every part of the United States, it has been chosen for this survey. It is expected that some twenty or twenty-five thousand dollars will be spent, and the coöperation of committees appointed by the County Medical Societies is asked. To these county committees the district data will be presented and the request is made that judgment on this data be passed by them. The statement is made that much consideration will be given to the expression of such judgment when the final analysis of the data is made. Furthermore,

that a copy of the complete data from all the surveyed counties will be turned over to the Society's Economics Committee or such other committee as shall be appointed by the State Society for their consideration, and again the judgment as expressed here will be given full consideration.

You will recall that the Federal Emergency Relief program was organized in the summer of 1933. During the fall of that year Federal Regulation No. 7 was promulgated which laid down broad principles to be followed in providing medical care. It provided for home and office care only, leaving the burden of hospital care a local responsibility. Provision was made for the sharing of costs between federal, state and local governments. An agreement was authorized between the state and/or local administrators on the one hand, and the state and/or local medical, dental, nursing and pharmaceutical associations on the other, to designate advisory committees to assist and advise in matters of policy and disputes. The traditional family and family-physician relationship was not to be disturbed but on the other hand was not to be established under this plan in view of existing clinics, or other medical and nursing services maintained by local and/or state funds. With the actual operation of the plan in your own counties you are all familiar. During the year and more since its inception much has been learned. Many mistakes have been made and many limitations and difficulties of administration have been disclosed. Most serious has been the failure to keep complete and careful records, during this period of trial and error. As far as I am aware Oakland County is the only one where complete statistical material is available for the full year. Others may be operating as satisfactorily but complete figures are not available for a year, to prove or disprove the point. In Oakland County, with a case load of from 25,000 to 45,000 persons the average cost for complete home medical care has been approximately  $1\frac{1}{2}$  cents per person per day. One hundred forty-seven physicians have been paid a total of \$89,669.91 during 1934. This represents an average of \$600.00 per physician for the year. Actually the variation is between zero and \$3,000.00 for the year. Several physicians whose practice is very largely among this type of patients have been spared from actual want by the remuneration under Emergency Relief Administration.

In Oakland County, the total cost of medical relief was 5.42 per cent of the total cost of Relief; of the total cost of medical relief the percentage paid out was as follows:

	Per cent
M.D.s for services.....	58
Drugs and appliances.....	13.8
Dentists .....	13
Nursing .....	3
Osteopaths .....	2
Optometrists .....	2
Chiropractors .....	0.2
Administrative cost .....	8
	<hr/> 100

As provided in Oakland County, medical care includes, for the patient:

1. Free choice of physician, with direct family and family-physician relationship. The patient visits or calls the doctor himself, directly.
2. Medicines; on prescription only, for U.S.P. and N.F. drugs. No proprietaries.
3. Special diets when laboratory and x-ray data, and consultation if necessary, proves a diagnosis of diabetes, ulcer, or a nutritional disturbance.
4. Appliances, braces, splints, glasses and false teeth, if special circumstances warrant the expenditure.
5. Special nursing in the home if necessary under special circumstances.
6. Services of a cultist limited to the absolute minimum.

From the standpoint of the physician the plan in Oakland County has been highly satisfactory.

1. It has proven that the profession is to be trusted. Individually and collectively physicians have coöperated 98 per cent. There have been two instances of chiseling which have been dealt with by the Welfare Commission on the advice of the Medical Advisory Committee.
2. It has maintained the traditional physician-patient relationship and thereby maintained the normal competitive spirit even in Welfare practice.
3. The quality of service has not been lowered, provision has been made for laboratory and x-ray aids to diagnosis and for consultation, and it is taken for granted by the administration, by the patient, and by the doctor that the service is the same as for private patients.
4. There is no dictation by administrators or social service workers in matters of medical service, nor is there cumbersome and irritating paper work. The patient on the active relief rolls calls a physician and the physician reports each service on a simple form. There are, of course, certain variations in, and additions to the routine in special cases. I shall try to review the actual procedure in more detail in a moment.
5. These members of the profession who were the hardest hit by the depression are the ones who profit most under this plan.

Some physicians whose practice is largely in areas where unemployment is more marked, have earned from \$2,000.00 to \$3,000.00 and this represents the major portion of their incomes.

Compared with the welfare load during 1934 the following figures are highly instructive and should prove useful in comparing tabulated statistics in other areas. During 1934, with a case load varying between 25,000 and 45,000, there was:

- An average of less than one office call per person. (40,097)
- One in every 2 persons called a physician to the house. (16,813 home calls)
- One in every 21 persons called a physician at night. (1,500 night calls)
- About one family in 17 had a baby born during the year. (473 obstetrical cases)
- One in every 25 persons had a minor surgical ailment. (1,357 minor surgical cases)
- One in 165 had a fracture. (193 fracture cases)
- One in 63 had x-rays of one sort or another. (516 x-rays)
- One in 230 had x-ray treatments. (143 x-ray treatments)
- One in 37 needed glasses. (870 refractions)

An average of 0.28 miles per call was travelled, beyond the first three miles. It should be apparent that the success of the Medical Relief Program of the FERA is much to be desired by the profession throughout the country. Mistakes are of course expected in the trial period of any marked departure from past experience and mistakes have been made in Medical Relief under ERA. It is not possible, at this time to precisely dictate administrative practice in the widely diverse types of communities met with in Michigan but it is earnestly hoped that steps toward uniformity of procedure may be taken before unhappy conflicts arise in any locality to damage the validity of the project as a whole. In Canada, and especially in the Province of Ontario, some disrepute came to the profession because of apparent exploitation of the Relief Ministry by a minority of the profession. Costs had trebled within a year and varied by as much as 250 per cent in different areas. The result has been that the Provincial Government has dumped the whole problem into the lap of the profession and at the present time there is much confusion. County Societies are now making at best rather inept attempts to administer the program, so far with inefficient and inadequate control; they are unwilling to allocate sufficient sums for "overhead" and will probably derive little benefit from a trial and error period because of imperfect records. I mention the experience of Ontario in order to point out that probably a solution which lies between complete governmental control and complete professional control holds greatest prospect of mutual satisfaction. Government has rightly assumed financial responsibility



for medical care of indigents, and having assumed financial responsibility has also exercised administrative prerogative, and the profession, on the other hand may rightly assume certain prerogatives of its own, since, after all, it is its services which are being distributed. There is, of course, the eternally raised bugaboo of a top heavy bureaucracy, of costly overhead and onerous supervision by administrative agencies when government runs the show but on the other hand there is the well known and probably inevitable inability of medical men to achieve a degree of communal solidarity and mutual trust in each other. I speak frankly because the point is important and fundamental. Human acquisitiveness being the powerful motive that it is, its effects on human relations had best be recognized and taken into account in any plan postulated upon coöperative effort. Individual differences in habits of practice and in this same acquisitive instinct are difficult to control in any type of administration and bespeak again the necessity for coöperative effort between the governmental administrator's authority and the profession's judgment.

It is not my province to anticipate the report of the Economics Committee in its study of medical relief in Michigan; the study, when completed, should prove most helpful to relief administrators and to the profession alike. It is to be hoped that whatever factual material is available may point out very clearly the way to a more or less uniform mechanism of administration and it should also make available some fairly definite data concerning costs. Beyond this there is, as yet, not much else to be discovered, but it may also be hoped that, directly or indirectly, there will be shown the desirability if not the necessity for close coöperation between administrative agencies and the profession.

DR. CORBUS: Gentlemen, here is a man who needs no introduction. He is to talk to us today about something which is uppermost in our minds, and that is what the federal government, as represented by Congress, is going to do to the pattern of medicine as it is practiced now. He gave me as his subject "The Current Status of Plans for Social Security." With that, as he probably has in mind, he will tell us something about medical participation in those plans.

I take pleasure in introducing to you Dr. Morris Fishbein, Editor *Journal of the American Medical Association*.

### Status of Plans for Social Security

DR. FISHBEIN: In preparing myself to talk to you this afternoon, I was not sure as to the exact nature of the audience, as to how much any of you might know in advance about what has gone on and about what is coming. As I look over the audience I see three or four men who have heard me before on this particular topic, and to them I will apologize for repeating, perhaps, some of the things I have said elsewhere on this subject, even here in Michigan.

I propose to carry you down to just about the present hour in the status of this rather peculiar campaign that is going on at the present time between interests representing various groups in the social service profession and in the medical profession and in

politics, so that you may be oriented to the condition at present and perhaps be guided by the trend in developing your own plans for the future. It will be necessary for me to go back and point out how we got into the situation as it now exists.

Medicine is largely responsible for the present situation, in that it grew so rapidly from a scientific standpoint that its social relations did not have time to keep up with its scientific advancement.

The costs of medicine have risen to a place in which the average man finds them exceedingly difficult to meet, particularly since at the same time there has been a constant pressure on him to raise his general standard of living and to provide himself with a great many things which were not necessary to a satisfactory living thirty-five years ago.

As many of you know, several reports have been published on the recent economic changes in the United States. As pointed out in the Hoover report, the most significant factor in American life in the past twenty-five years has been the increasing expansion of human desires and wants. The average American is not satisfied unless he can have a motor car, a radio, perhaps a piano. He is not satisfied even with the simple meals of thirty-five years ago, but he has a widely varied and sophisticated diet. This is true even of the recent diets of those on relief. The people on relief in former days used to have coffee and doughnuts, "sinkers" as they were called. Then they began to learn a little about diets, and soup and oranges were prescribed. This doesn't approach the diets of those on relief today. Study those diets for the average person on relief and also the special diets for those who require them, and you will see how much we have moved in respect to that one factor.

We have changed our standard of living, and at the same time we have changed the nature of medical practice, moving from the old-time family doctor who was responsible for all the family's illnesses and health, into a time when we began to require increasing methods and procedures which developed in the hospitals. That required nurses' services, which in turn required nurses' training schools. Shortly after, there was the social service worker, to follow the patient into the home after the work in the hospital was completed. And suddenly we find medicine

practiced no longer by doctors alone, but by a total number of professional workers which amounts to about one and one-half million people, consisting of some 250,000 nurses, 200,000 social service workers—both professional and amateur, and those in it just for entertainment—dieticians, ambulance drivers, x-ray technicians, laboratory technicians, hospital clerks and the general personnel that clutters up the hospital.

At the same time dentistry advanced, and the old-time dentist who worked with a wrench and a pair of pliers has become a highly trained technician and sometimes an artist. And the costs have risen proportionately.

Social service workers make a survey. Everything is preceded by a survey; and just as soon as we make a survey we find a lot of sore spots. Nowadays when we uncover them we try to give a little first aid. That brought us into the whole picture of social security.

Some have thought that social security meant only medical care, but of course all of us are beginning to realize that social security means far more than medical care. It means provision for a job, provision in old age, provision for the handicapped, the hard-of-hearing, the crippled, the mentally defective, the provision of prenatal care for the expectant mother, maternal welfare, and a great many other things which are included in the thirteen committees—which, I believe, eventually represented the total number in the Technical Advisory Staff of the Committee on Economic Security.

When the reports came in from the various bodies that studied medical care, the reaction of the medical profession is familiar. It was rather pleased with the report of the Commission on Medical Education. It brought out a few very simple things that the average doctor could comprehend: that there were probably too many doctors in a great many places; that there should probably be more doctors in other places; that hospitals were put down without any real scientific analysis as to why a hospital should be in that particular spot.

The report of the Committee on the Costs of Medical Care might be considered a too forward-looking report. It predicated a Utopia in which all human beings readily sink their desires and their initiatives and their advancements, in the one purpose of getting medical care in times of illness. It

recommended the establishment in each hospital of a complete staff. It looked toward the set-up around that hospital of a lot of human beings who were willing to sink themselves into the scheme and have their medical care carried out by the staff of doctors there. It was the type of machine that would work perfectly and develop a great amount of saving of time and money and effort, if it were not for the fact that it would be dealing with human beings. If it were for nails, bolts and nuts, it would have worked perfectly, but the moment you inject the human factor, such a system would—as I insisted in my first editorial on the subject—change the entire American scheme of individual responsibility and initiative to a scheme that was essentially communistic. And as we read the reports of the various social workers and other writers in the field today, I think we come more and more to a realization of the fact that what they are striving to establish in the United States is essentially the scheme of medical care that exists in Russia today.

Briefly, it embodies the employment of all physicians by the state, complete control over the nature of the work of all physicians, the distribution of these physicians in the hospitals. It does provide for a scheme of compulsory post graduate study by the doctor. This is probably the outstanding virtue of the Russian system. But I would still contend that such a system of post graduate study as has been worked out in the State of Michigan and which leaves a certain amount of initiative to the doctor, is far superior to any compulsory system of post graduate work which drives the doctors into a post graduate course.

President Roosevelt, just before departing on a vacation for Hawaii, announced that on his return his legislative objective would be the establishment of social security for the American people. In order to establish social security, he set up a committee of five, which consisted of Henry Morgenthau, Secretary of the Treasury; Henry Wallace, Secretary of Agriculture; Miss Perkins, Secretary of Labor; Harry Hopkins, Federal Relief Administrator; and Homer Cummings, Attorney General. That committee was authorized by the President to make an investigation into the need for social security in the United States and to bring to him a report following his return from his vacation, so that he might bring to the Con-



gress of the United States a message and a bill in order to provide greater social security for the American people.

This committee of five then set up a Technical Advisory Staff, headed by Witte, of the University of Wisconsin, who was trained in economics, in the whole problem of insurance, and the application of insurance to various methods of living. He had been associated with various state efforts, including the workmen's compensation law of that state. Mr. Witte came to Washington as head of the Technical Advisory Staff, and he set up at once a group of thirteen assistants or technical advisors, each of whom was in charge of some one phase of the social security program. He put one man in charge of the question of unemployment, one in charge of the question of unemployment insurance, another in charge of the question of hospitals and public health, one in charge of old age and maternal welfare, the care of the handicapped, and so on. Thirteen in all. Eventually we come to medicine, which was headed by Sydenstricker, of the Milbank Foundation. Mr. Sydenstricker had views which were well-known to the medical profession, because when the Committee on the Costs of Medical Care brought in its majority report, it also brought in a minority report, and also several individual minority reports. It was interesting to note that a man who was so anxious to have the entire country put on a completely social basis, demanded his own minority report.

*Editor's Note.*—To complete in this issue of the JOURNAL, this discussion of the progress of the President's Social Security Plan as so interestingly described by Dr. Fishbein, it becomes necessary to brief the rest of his speech.

Dr. Fishbein, continuing to trace the procedure, noted that the Technical staff went on working "without much of a medical representation on the Technical Advisory Staff." On the President's return he decided to get additional advice, and appointed a General Advisory Board consisting of capitalists, labor leaders, attorneys, but again no physician. It was announced that this Board would have a good deal to say in relation to the Federal recommendations which would be submitted by the President to congress.

Shortly afterwards from Miss Perkins' office, presumably with the advice of the President, there was appointed a Board of Medical Advisors. "Most of you know the names of the members of this Board. They were not there representing the organization of which they were officers, but merely as distinguished medical men in whom the President had confidence."

Eventually a special meeting of the combined committees was called in Washington for the purpose of discussing the entire subject of social security. Dr.

Luce of Michigan was brought in to present his point of view in respect to many of these problems, and Michael Davis was put up almost in opposition to Nathan B. Van Etten. On the completion of this meeting the boards retired for the discussion of such plans as would be proposed by the Technical Advisory Staff. "The Medical Advisory Board was presided over by Mr. Sydenstricker, head of the Technical Staff. It is said that Mr. Sydenstricker stated that he did not care particularly for any discussion by them of the insurance principle but that all he wanted was general advice."

This Medical Advisory Board had two meetings. "As you know, the entire service of this Medical Advisory Board has not been particularly satisfactory to them or to the Technical Advisory Board or to Miss Perkins or to us or to anybody else."

The Medical Advisory Board are beginning to feel that they were brought down there for what we could call a background or a "set up."

Between the first meeting and the last the Committee on Economic Security brought out its report with the thirteen principles which it proposed to develop in the field of insurance. "It was," says Dr. Fishbein, "to the great surprise of the Medical Advisory Board of the Technical Advisory Staff that these things were announced. They considered them somewhat premature. They did not know they were going to be announced and they were not ready for such an announcement nor to support that announcement."

It was this report from the Committee on Economic Security that occasioned the necessity for a special meeting of the House of Delegates of the A. M. A. This meeting in Chicago in February came out with a new series of understandings in relation to these problems. The House of Delegates reiterated their twelve principles fundamental to any scheme of sickness care adopted at the Cleveland session, and considered certain other phases, all of which are familiar to you from JOURNAL publications.

The Bureau of Economics of the A. M. A. announced that it would bring into the House of Delegates its own local plan at the next meeting.

Dr. Fishbein discussed some of the bills before congress, particularly the Wagner-Lewis bill which, as originally presented, puts the control of sickness insurance, unemployment insurance and old age pensions under a special social service board to be set up by the Department of Labor appointed by the Secretary of Labor. He said, "We are assured that when the Wagner-Lewis bill comes out of committee it will not contain any reference to sickness insurance, and in addition to that that when the bill now known as the Wagner-Lewis-Houghton bill comes out the Social Service Board will be removed from the Department of Labor to a place directly under the President as an independent unit. Furthermore that the maternal and child welfare and the care of the handicapped will be taken from the Children's Bureau in the Department of Labor and put under this social service."

Here we have the set-up of a new unit in the government to handle medical care, but with no reference as to whether a medical man will be in charge of it.

Dr. Fishbein further discussed the activities of the American League for Social Security headed by Mr. Abraham Epstein. The purpose of this organization is to provide so-called model bills for sickness insurance to be presented to various state legislatures. Dr. Fishbein says the Epstein bill is a vicious bill, a bill which would do tremendous harm to the medical profession, a bill which economists say would be bound to bankrupt any state if it met the conditions it is set up to meet.

Dr. Fishbein then discussed the action of the House of Delegates of California, who recently adopted, but not unanimously, a recommendation, that a special committee of the House of Delegates confer with a committee of the Legislature to develop for the state of California a system of compulsory and voluntary sickness insurance. The bill proposed is the Epstein bill with certain guards directed to giving some protection to the profession. Commenting on California's action and disapproving of the action, he noted that there were before the California state legislature some five bills relating to medical care, each of which threatened the profession. He assumed that with these bills before the legislature the California Medical Association found itself in a spot where it felt that it must take some action.

In closing, Dr. Fishbein continued, "So that is the picture of the situation. I might say that the A. M. A. is following all of this legislation very carefully. We are satisfactorily represented when the necessity occurs for us to appear before different committees or groups."

## PERMISSION TO OPERATE

Dr. William J. Stapleton, secretary of the Medical-Legal Committee, calls attention to the uncertainty in the minds of many members of the profession as to what constitutes, from a legal standpoint, "permission to operate." Two recent suits in which the plaintiff seeks damages because further surgery was performed than was indicated on the basis of pre-operative diagnosis, make it advisable that there be presented the following information:

Dr. William C. Woodward, Director of the Bureau of Legal Medicine and Legislation of the American Medical Association, has made the following comments in a letter to Doctor Stapleton:

"The study this Bureau is making with respect to forms evidencing the consent of the patient and of other necessary parties to various hospital procedures has not as yet been tabulated or analyzed in a form adequate for release. However, I enclose herewith copies of three forms prepared by this Bureau in connection with the uncompleted study. You will notice that in these forms the patient or person consenting does more than authorize a certain operation, he authorizes an operation "for purpose of relieving" the patient of a stated ailment or condition. The consent is a consent to whatever measures or procedures the physician deems necessary to relieve the stated condition, whether those measures were or were not contemplated at the time the consent for them was signed.

"Of the three forms enclosed each serves a definite purpose. Form 1 is to be signed by the patient. Form 2 is to be signed by persons other than the patient whose consent is necessary or whose consent may be obtained for expediency or safety. Form 3 is to be signed by patients who object to permitting the physician to exercise his own discretion as to unexpected conditions revealed during the operation and who for that reason desire to delegate a designated person the right to act for them during the time the patients are under anesthesia. No form has been prepared to meet the situation

where because of the patient's lack of capacity to consent, consent must be obtained from his spouse, parents, or guardian, and the necessary parties to that consent desire to delegate their authority during the course of the operation to some third person, somewhat analogous to the situation presented in Form 3. Such a form would be very seldom used, for I assume that, under the circumstances, any representative of the patient with such decided views would be in the hospital during the course of the operation and readily available to consent to or forbid further procedure."

"With respect to what persons should be required to sign these consent forms, I offer the following suggestions. If a patient is a sane adult, his or her consent alone is sufficient. If a patient is a married man or woman and mentally competent to consent, the consent of the other spouse is not necessary but it probably would be expedient to obtain it if convenient. However, no pressing or emergency operation should be deferred until that consent is obtained. If the patient is married but is mentally incompetent, the consent of the other spouse should be obtained. If the patient is an incompetent unmarried adult or if the patient is an unmarried minor, competent or otherwise, the consent of the parents or of the guardian should be obtained. However, in the case of an emergency an operation on any person without the consents indicated above, would not subject the operating physician to liability."

Appended hereto are the three forms commented upon by Doctor Woodward which have been prepared by the Bureau of Legal Medicine and Legislation.

### Form 1

I hereby authorize and request Dr. .... to operate on me for the purpose of relieving me of..... and to do whatever he deems necessary to that end.

I further authorize and request him, if any unforeseen condition arises in the course of the operation, calling in his judgment for procedures in addition to or different from those now contemplated, to do whatever he deems proper in my interest.

Signature of Patient.....  
Date.....  
Witness.....

NOTE: This form is to be executed by the patient. If the patient is a sane adult his or her consent alone is sufficient. If a patient is a married man or woman and mentally competent to consent, the consent of the other spouse is not necessary, but it probably would be expedient to obtain it if convenient. However, no pressing or emergency operation should be deferred until that consent is obtained.

*If the patient objects to the grant of authority contained in the second paragraph of this form, use Form 3.*

### Form 2

I.....  
We hereby authorize and request Dr..... to operate on..... my  
our..... for the purpose of  
relieving..... of.....  
and to do whatever he deems necessary to that end.

I.....  
We further authorize and request Dr..... if any unforeseen condition arises in the course of the operation calling in his judgment for procedures in addition to or different from those now contemplated, to do whatever he deems proper in the interest of the patient.

Signatures.....  
Date.....  
Witness.....



NOTE: This form is to be signed by the person or persons other than the patient whose consent is necessary or whose consent may be obtained for expediency or safety. If a patient is married but is mentally incompetent the consent of the other spouse should be obtained. If the patient is an incompetent unmarried adult or if the patient is an unmarried minor, competent or otherwise, the consent of the parents or of the guardian should be obtained. However, in the case of an emergency an operation on any person without the consents indicated above, would not subject the operating physician to liability and failure to operate until such consents had been obtained might well result in liability.

*If the representative of the patient objects to the grant of authority, contained in the second paragraph of the form, use Form 3.*

(Whether a surgeon will or will not proceed to operate if the patient will not permit him to exercise his own judgment and requires him to depend in the course of the operation on authority from some third person to perform procedures that the operation has shown to be necessary, is a matter which any surgeon will do well to consider carefully before proceeding under the form that follows.)

Form 3

*Patient's authorization to operate, coupled with the designation of an agent or a representative to act for the patient while the patient is unconscious or otherwise unable to exercise judgment or to give valid consent.*

I hereby authorize and request Dr..... to operate on me for the purpose of relieving me of..... and to do whatever he deems necessary to that end.

I delegate to..... authority, if any unforeseen condition arises in the course of the operation while I am incapable of acting for myself, which condition calls, in the judgment of Dr..... for operative procedures in addition to or different from those now contemplated, to consent on my behalf to Dr.....'s doing whatever in the judgment of said..... is proper in my interest. I assume full responsibility for any action said..... may take in this matter.

Signature.....  
Date.....  
Witness.....

Consent of Patient's Representative

I, ..... named above to act for this patient while she is undergoing the operative he procedures authorized above and unable to act for herself

being informed by Dr..... that an unforeseen condition has arisen in the course of that operation calling for procedures in addition to and different from those contemplated when the above consent was executed by the patient, that the patient is in his judgment incapable of exercising rational judgment and giving a valid consent with respect to further operative procedures, and being fully informed as to the necessity, desirability, and risk involved in the additional procedures advised by Dr..... and named below, do hereby authorize Dr..... to.....

Signature.....  
Date.....  
Witness.....

NOTE: This form should only be used when the patient refuses to sign Form 1. If the patient is a sane adult his or her consent alone is sufficient. If a patient is a married man or woman and mentally competent to consent, the consent of the other spouse is not necessary but it probably would be expedient to obtain it if convenient. However, no pressing or emergency operation should be deferred until that consent is obtained.

MINUTES OF THE MEETING OF THE EXECUTIVE COMMITTEE OF THE COUNCIL

The Executive Committee of the Council convened in Ann Arbor at 8:00 P. M., Wednesday, March 27, 1935. Present, Chairman Powers, Doctors Heavenrich, Luce, Boys and Carstens. There were also present Councilors Cummings, Baker, Urmston, President-Elect Penberthy and Secretary-Elect Ekelund.

The Secretary presented a letter from the State Emergency Welfare Relief Commission dealing with certain bills, apparently irregular, and involving in total a considerable amount, which have been rendered by two members of the Society, presumably with the coöperation or consent of the local Administrator and asking for suggestions as to the method of handling this delicate and possibly serious situation. On motion, the Secretary was instructed to write the Commission that we desire to make further investigation, through the Councilor of the District, and to state that the Society hopes that an explanation will be forthcoming which will be satisfactory and the well earned reputation of the profession of this state for conscientious, honest and efficient work may continue to be 100 per cent justified.

The Secretary announced that he had received a communication from the Secretary of the Ottawa County Medical Society, stating that the Society had gone out of existence and that they were surrendering their charter to the State Society. He announced that he had requested Dr. R. H. Nichols of Holland to come before the Executive Committee and discuss the occasion for this action of his Society. Dr. Nichols appeared before the Committee and stated that a notice had gone to the State Secretary in January reporting that "a petition that the present organization disband" signed by ten members of the Society had gone out to all County members and calling for a special meeting for action on February 12. Also that a further notice had gone to the State Secretary announcing that on February 12 the Ottawa County Medical Society on vote of 24 in favor and 4 opposed had decided to surrender their charter. This action of the Ottawa County Medical Society was discussed at length and on motion of Heavenrich and seconded by Luce, the Committee voted to declare the charter void.

The Secretary now announced that he had a request from a group of doctors, meeting in Grand Haven on February 19th, for a charter under the name of the Ottawa County Medical Association that they may become a component unit of the Michigan State Medical Society and the American Medical Association. The Secretary also stated that at the time of disbanding, the Ottawa County Medical Society had 33 paid-up members.

Further discussion ensued and on motion of Luce, seconded by Heavenrich and carried, the Secretary was instructed to issue a charter to the Ottawa County Medical Association as a component unit of the Michigan State Medical Society when satisfactory By-Laws were presented and the usual formalities were satisfactorily accomplished.

(There has been presented to this office during the last few days a roster of membership for this new Society of 33 members.)

Annual Dues

The Secretary called the Committee's attention to that section of the By-Laws providing that—"Any member in arrears after April 1 of each official year shall stand suspended" and noted that the House of Delegates at the last meeting voted a new By-Law which provides that—"Members who become rein-

stated by the payment of back dues shall not be entitled to medico-legal protection during their period of arrears." The Secretary requested action to permit an extension of time for the payment of dues until April 15th. On motion of Boys, seconded by Carstens, this action was taken and the Secretary instructed to write each County Secretary to this effect.

The Secretary stated that he had offered to members in arrears for payment of notes and for payment of the medical history a one-third reduction, with receipt in full, if paid promptly. On proper motion, this action was approved.

A communication from the Wayne County Medical Society under date of March 27 was presented, containing the Penberthy-Honor resolution and the McLean-Kennedy resolution, the first referring to the federal survey of SERA activities and the second urging the establishment of the Wayne County plan for a Medical Service Bureau in other counties.

On proper motion, the Secretary was instructed to note in his next letter to the Secretaries that the American Medical Association is now studying plans providing for the care of the indigents and those of marginal incomes, through the County Society as a medical group, and suggesting that each County Society study these plans as presented and consider such other similar plans as may be peculiarly adapted to the requirement of their own county. It was further suggested that a contact be made with the FERA for a discussion of the Penberthy-Honor resolution.

A communication was presented by the Committee on Preventive Medicine on the subject of "A Tuberculosis Bureau in the State Department of Health." Doctor Foster of the Preventive Medicine Committee was invited in to discuss the communication and brought out that this suggestion is in anticipation of an increased allocation of funds to the State Department of Health by the federal government. The plan, as outlined, was endorsed by the Committee under proper motion after certain minor changes had been made. This motion by Heavenrich, seconded by Carstens and passed, carried the instruction to the Secretary to submit this plan to Doctor Slemons, State Health Commissioner, for his consideration.

### Lay Secretary

The Committee appointed to consider the employment of a Lay Secretary presented a report. It was the opinion of this Committee, as stated in their report, that as no emergency exists the Committee meet again at a later date to consider—

1. The man for the place.
  2. When he should be employed.
  3. Salary or salaries.
  4. The Wayne County proposal.
- with the note that it is suggested by Doctor Urmoston that any man recommended be elected by the whole Council. A free discussion on this report finally left the matter in the same position.

### Councilor 5th District

Chairman Powers presented the resignation of Doctor Burton R. Corbus as Councilor of the 5th District.

January 30, 1935

Dear Doctor Powers:

For some time I have been considering resigning from the Council. It seems to me that I am in an anomalous position as councilor and secretary. Apparently this is satisfactory to the Council and to the profession, yet one might question whether my district is as fully represented as it should be, at a time when matters of moment are before us. My term of office as Councilor has but one more year to run, and I had long ago determined that I would not stand for re-election. This is, as you know, my third term, and dur-

ing that period the Council has seen fit to place upon me a considerable amount of responsibility. It has been exceedingly gratifying to me that I have had the opportunity to play a part in the accomplishments of this Society during this period, for Michigan now stands among the foremost of forward looking state societies of the country. I shall have a prominent part, by virtue of the secretary's office, in the activities of the next few months which I anticipate will be epoch making.

Taking all things into consideration I deem it wise to present to you, and through you to the Council and the President, my resignation to take effect at the next meeting of the Executive Committee.

I confess that I do so feeling that I am giving up something which, while it has entailed a certain degree of sacrifice and much work, has yet been of real pleasure to me. The greatest part of that pleasure has been the opportunity of working with this splendid body of men, and making, through this association, some very real and dear friends. It is my earnest hope that this friendship will not lapse during the years when necessarily contacts will be less frequent.

A copy of this letter will go to President Smith.

Very sincerely yours,  
(Signed) BURTON R. CORBUS

The resignation was accepted, after discussion, upon motion made by Carstens and seconded by Heavenrich, the motion including the resolution that the Executive Committee for the Council express its regret at the resignation and its appreciation of Doctor Corbus' long years of service for medicine and the Michigan State Medical Society.

The Chairman then read a communication from President Smith, nominating Dr. Vernor M. Moore of Grand Rapids to fill the unexpired term of Doctor Corbus. This nomination was approved by proper motion and the Secretary instructed to notify Doctor Moore.

The Secretary presented the matter of the Annual Meeting and stated that it was his intention to go to the Soo during April, that he had received certain blue prints of space which would seem to indicate that ample facilities were available for meetings and exhibits. He stated that blue prints of the space available for commercial exhibits will go out early in June, as has been the custom. No early applications for preferred space, which usually form a nucleus of the sales, have so far come in. On motion of Dr. Penberthy properly seconded and carried, the Secretary and the President were authorized to make plans for General Sessions and in consultation with Section Chairmen determine the program.

BURTON R. CORBUS, *Secretary*

## COUNTY SOCIETIES

### EATON COUNTY

The March meeting of the Eaton County Medical Society was held at the Carnes Tavern Hotel, Charlotte, Michigan. A dinner at 7 P. M. was followed by the scientific program of the evening.

Dr. Forrest Huddleson of Michigan State College presented in a very interesting and instructive way the story of "Undulant Fever." Dr. Huddleson stated that there are three distinct types of bacteria causing the disease and that these are found in different animals—melitensis usually associated with infection in goats, abortus in cattle and suis in swine. By determining the type one can thus more easily determine the source of the disease in man. The disease has been found in nearly all lower animals that are domesticated, the cow, hog, goat, dog, cat, chicken, wild birds, etc., probably it is also a disease of migratory birds.

The clinical manifestations in both lower animals and man were discussed. Skin tests with highly purified nucleoprotein of the organism is a most help-



ful way of detecting whether or not the patient has become sensitized to the organism. If this test is negative one can say with certainty, it is believed, that the patient in question does not have undulant fever; however, if the test is positive it is no certainty that the patient has the disease. This test is analogous to the tuberculin test. Should the skin test be positive one can by determining the opsonic index tell how active the process is. The agglutinins as well as the opsonins are used to give an index as to the body's reaction to the organisms.

The antigen that Dr. Huddleson has perfected is of use in the treatment. This antigen is made by growing the bacteria in a culture medium and filtering off the organisms. One begins by first determining through an intradermal skin test of .1 c.c. of the antigen whether or not the patient is sensitive. If not, the antigen can be gradually increased. Sometimes it is necessary to give rather large doses before a favorable body response is obtained. It is believed that the reaction in the sense of temperature, chill and malaise has nothing to do with the building up of resistance to the disease. The members showed by their discussion of undulant fever, the attention they had given Dr. Huddleson.

Motion was made by Dr. Paul Engle of Olivet and seconded by Dr. A. G. Sheets of Eaton Rapids that the W. K. Kellogg Foundation through the local health department continue the tuberculin tests in some of the rural schools. Carried unanimously.

The motion was made by Dr. Engle that the society through the local health department hold a health clinic for preschool children this coming year. Unanimously carried.

After a discussion of the postgraduate work proposed by The Kellogg Foundation the meeting adjourned.

JOHN LAWTHOR, M.D., *Secretary*

## ST. CLAIR COUNTY

A regular meeting of the St. Clair County Society was held Tuesday, April 16, 1935, at the Harrington Hotel, Port Huron, Michigan. Twenty-five members and five guests were present. The president introduced Mr. Stitt of the local insurance underwriters, who spoke for ten minutes upon the economic necessity for accident and life insurance from the standpoint of the physician. The minutes were read and approved. Several communications were read. The president spoke briefly concerning the work of the unofficial committee working at Lansing and urged the members who had not paid their special assessment of \$3 to do so as soon as possible. A motion was carried to the effect that in the future no sales talks be made before the Society unless previous approval had been given by the Society. A motion congratulating our fellow member, Dr. T. E. DeGurse, upon his election as Mayor of Marine City, was carried.

Dr. W. H. Gordon of Detroit addressed the Society upon the subject of "Agranulocytosis." The speaker reviewed the early literature upon the subject dating as far back as the middle of the nineteenth century and outlined his findings as to the etiology of a series of sixty-five cases at the Harper Hospital, Detroit, as well as two hundred odd cases reported in the literature. The speaker stated that about 6 per cent of all the cases in the above groups seemed to have an etiologic basis in the administration of amidopyrin and the drugs of the barbitol group. Benzol compounds and many other causative factors have been given in the opinion of writers. The speaker believes that the true pathology is in a defect of the bone marrow. Treatment by means of whole blood and nuclein as well as general care seems to be most efficacious.

GEORGE M. KESL, *Secretary-Treasurer*.

## WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, *President*, Kalamazoo.  
MRS. F. M. DOYLE, *Secretary*, Kalamazoo.

### Items from National News Letter of March, 1935

Mrs. Robert W. Tomlinson, President of the Woman's Auxiliary to the American Medical Association, states:

"If you have read the last copy of the *Bulletin* you will have learned much of the many pleasurable events that are being planned for our diversion at the time of our annual meeting in Atlantic City in June. We have, this year, an unusual opportunity to be of real help to our men by doing our utmost to make the visit of our Canadian friends a pleasant one. It is my understanding that this will be the largest medical meeting that the world has known. The Medical Associations of the two largest countries in North America will join together, and ours is the joy that will come in extending our hands and opening our hearts to our northern neighbors. It is my hope that each of us to whom is charged responsibility, will have completed every preparation well ahead of time so that our days may be as unencumbered with unnecessary duties as possible. The program that the Convention Committee is planning for our interest and pleasure is one of great attraction. Never will we be far from the sun, sea air, and the Board Walk. Our meetings, as well as most of our social events, will be within sight of the great Atlantic Ocean.

"To each and every member I send my hearty thanks and deep appreciation of what your loyalty to your husbands' profession has done to arouse enthusiasm for the type of work and pleasure that the Auxiliary may promote.

"Will you pass these words along to the wife of every physician, that while the Auxiliary may have the opportunity of making plans for this meeting by the seas, only the coöperation of every Doctor's wife will carry these plans through to a happy fulfillment. We hope that each and every one of them will join with us in our welcome to the Canadian women, and share with us whatever may be of interest and pleasure to them."

Springfield (Missouri) Auxiliary assisted in the service rendered by the Y.M.C.A. to 120 boys of FERA families. Besides the personal service given by the members of the Auxiliary, a cash donation was given to further the work at hand.

The Duchesne County (Utah) Auxiliary boasts of being more than 100 per cent in membership. This Auxiliary has enrolled every eligible doctor's wife and a sister of a woman doctor. And, every member is a *Hygeia* subscriber.

January was chosen Physical Examination Month in Texas. During this month the Auxiliary put on an intensive drive to the end that every doctor, his wife, and children have a complete physical examination. The slogan adopted for the campaign was "An inventory of my health, as well as my wealth."

The Elbert and Madison County Auxiliaries (Georgia) have raised \$750 and \$700 respectively, to forward the work of the new Child Welfare Councils.

Orleans Parish (Louisiana) Auxiliary is deeply interested in the Social Hygiene Lectures given in New Orleans. The group has donated \$25.00 to aid in bringing Dr. Valerie Parker to New Orleans to give these lectures to the school girls. In one month 1,500 girls in high schools heard these lectures.

In September the Florida Medical Advisory Board and the State Auxiliary Board held a joint meeting to formulate some definite work for the coming year. After these plans had been approved by the State Medical Association they were sent out to the various county groups throughout the state. This outline I am passing on to you, as it is one of the finest examples of its kind that I have seen.

There are seven divisions in the program each covering an entirely different phase of work. Very briefly they are, as follows:

1. Let each member at all times hold herself in readiness to serve on health committees of any outside organization.
2. Assist in the dissemination of good health literature by means of an enlarged circulation of *Hygeia*.
3. Give your wholehearted cooperation to the program of Cancer Prevention, and arrange, if possible, one public presentation of Cancer Prevention material in your County.
4. Assist in the organization of new county auxiliaries.
5. Hold yourself in readiness to give as wide support as possible when called upon by the State Legislative Committee.
6. Present to as many organizations as possible the talk on "The Necessity of Health Cards for Household Servants."  
(Note—this talk deals with the necessity for requiring household servants the same health certificate that is at present required of food handlers. This is advocated for the purpose of lessening the danger from venereal disease as well as tuberculosis.)
7. Use at least one study envelope during the year. These are for your information and will prove of much value to you if you will choose one or more and assign topics to different members for presentation.

### Reading List

1. The Evils of Social Insurance—Medical Annals of the District of Columbia—February, 1935.
2. The Shortcomings of Health Insurance—By H. M. Camp, Secretary Illinois State Medical Society. Illinois Medical Journal, February, 1935.
3. Catechism of Sickness Insurance—Ohio State Medical Journal, February, 1935.
4. Animal Experimentation—Editorial *Hygeia*, March, 1935.

MRS. LLOYD C. HARVIE, Press Committee

### Jackson County

Several features marked the March meeting of the Woman's Auxiliary to the Jackson Medical Society, held at the home of Dr. and Mrs. John Ludwick. Mrs. E. D. Crowley and Mrs. T. E. Hackett acted as co-chairmen. The committee assisting was composed of Mrs. E. G. Wilson, Mrs. W. L. Faust, Mrs. W. L. Finton and Mrs. George Seybold.

Richard Scammon spoke of "The Art of Puppetry." He told of the beginning of the marionettes and their progress through the ages. Their entry into the movies formed a greater part of the talk. He displayed many of his models and explained their workings.

A delightful musical program was presented by Bobby Corley, son of Dr. and Mrs. Cecil Corley and George Cox, son of Dr. and Mrs. Ferd. Cox. Janet Magoon, Gordon Smith and Earl Peterson also contributed to the musical program.

### Saginaw County

The serious and the funny were blended Tuesday night, March 19, when 35 members of the Woman's Auxiliary to the Saginaw County Medical Society met for dinner and an enjoyable program at the Hudson party house.

A review of Sir William Ostler's "Evolution of Modern Medicine" was the serious feature of the program and a "Clara, Lu and Em" skit, satirizing social and economic problems of the medical profession, was the hilarious conclusion of the evening.

Mrs. Oliver W. Lohr reviewed the book on the evolution of Medicine. Mrs. L. C. Harvie, Mrs. Robert Jaenichen and Mrs. Julius H. Powers took parts in the skit, in which Dr. Morris Fishbein's recent lecture to the Wayne County Medical Auxiliary on "Food Fads" made an important contribution.

Mrs. Walter K. Slack, vice president, presided in the absence of Mrs. J. A. McLandress. Dinner was served at tables prettily decorated with orchid tapers in crystal holders, pink sweet peas in crystal bowls and smilax. Mrs. C. W. Ely won the house prize. The committee in charge of arrangements included Mrs. Jaenichen, Mrs. W. H. Pickett and Mrs. Emil Richter.

### Wayne County

As announced, a seven-day exhibit of paintings and handicraft work consisting of pottery, hammered brass, painted china, photography, sculpture, oil paintings, drawings and water colors was held from April 12 to April 19 in the Wayne County Medical Society club rooms under the auspices of the Woman's Auxiliary of the Wayne County Medical Society. This was the second annual exhibition of hobbies by members of the medical profession, their wives and families. At the regular meeting of the society, April 12, sixty-two new members were presented. The program among other things consisted of a very interesting demonstration of the making of pottery by Mrs. Milton D. Vokes. Saturday afternoon was devoted to the children's exhibit. An interesting program was held Sunday afternoon consisting of violin and piano by Drs. Robert Berman and V. R. Marburger. Dr. William Fowler (Weelum) contributed a poem written for the occasion on hobbies. This was followed by an interesting talk by Dr. Parker Heath on "Art." Then followed a tea and inspection of the various hobbies on exhibition. Mrs. Frank Hartman opened the afternoon program with an address of welcome, after which she called to the chair Mrs. J. H. Dempster, chairman of the Art Committee. Monday, Tuesday, Wednesday and Thursday following, talks on some aspect of art were given by Mrs. George L. Waldbott, Mr. Henry Morton, Mrs. Jack Agins, Mrs. L. M. Bush, and Mrs. Milton Darling furnished the music for the various occasions. The exhibitors were as follows:

Mrs. Jack Agins, three oil paintings; Dr. Emil Amberg, seven black and white sketches (heads of well-known men); Mrs. Arthur R. Bloom, two oil paintings and six colored crayons; Mrs. Lowell M. Bush, three oils, three colored crayon sketches, one architectural drawing, six pieces of sculpture in Ivory soap, and one oil painted plaque; Mrs. W. E. Coon, two figure crayons from life and six drawings in design; Mrs. J. H. Dempster, two oil paintings; Mrs. Donald L. Drummond, three pieces of pottery; Dr. Charles Dutchess, one bronze head; Mrs. William Fowler, twenty-two pieces of china, one brass tea pot and three water colors; Dr. Parker Heath, one water color; Mrs. B. Hjalmar Larsson, one figure in sculpture; Mrs. Ignatz Mayer, one



oil painting and five watercolors; Dr. Edward S. Sanderson, one copper tray and one copper plaque; Dr. A. E. Schiller, seven photographs; Miss J. Slachter, two watercolors; Mrs. George L. Waldbott, eleven black and white anatomical drawings; Dr. H. F. Warden, two oils and one water color; Mrs. Milton D. Vokes, thirteen pieces of pottery and figure sketches in clay.

*Young People's Department*—Helen Betty Bush, six drawings, one poster and one oil plaque; Edna Hartman and Halline Hartman, one bowl (landscape garden); Inga Larsson, ten drawings; Bjorn Larsson, five drawings; Elrine R. Schiller, four watercolors and three crayons (black and white); Solveig Larsson, nine drawings.

## THE LIVES THAT'RE LIVED IN HOBBIES\*

WILLIAM FOWLER, M.D.

Ah! Come, ye bonnie lassies, o' oor medical profession,  
Come gaither close aroon' me, sit ye doon in easy fashion,  
Ah hae somethin' for tae tell ye, somethin' new, that's come  
tae licht,  
'Boot th' husbands o' th' order, wha are stayin' oot at nicht.

Weel, ye see, it's this way, lassies—in this land o' equal  
richts,  
Men are fond o' ha'in' hobbies—g'in' vent tae appetites,  
Doin' somethin' on th' quiet—tyin' knots in fancy rope,  
Or makin' busts o' nudists, oot o' guid auld Ivory soap.

Ah'm nae for tellin' secrets, 'boot th' men wi' whom ah  
wander,  
Ah wid rather ask yer pardon, be lenient wi' yer partner,  
For it may be that he's busy, doesna ken how minutes pass,  
When he's playin' wi' his hammers, hammerin' oot a piece  
o' brass.

Noo, it may be different wi' inither maun ye ken,  
He may hae a different hobbie, ane that pleases ither men,  
Some hae pots o' paint an' brushes, worshipping an auld  
Raphael  
An' blandin' colors on a canvas, their story, there, tae tell.

An' there's ither wi' their kodaks or perhaps a movie cam  
Snappin' here an' there a picture—mountain side or river  
dam,  
Or maybe a group o' neebors, ca'in' at their but an' ben,  
Whose faces they'll preserve forever, in th' albums o' their  
den.

There are crafts that fit th' individualistics o' each man,  
An' he'll gi' a fine expression tae his likin' when he can,  
He'll hae his muscles hardened, contracted firm an' tense,  
As he satisfies that likin', makin' oop an iron fence.

Noo, ah've heard aboot some lassies, an' th' way their  
hames adorn,  
How they've stenciled walls an' ceilin's, working frae th'  
early morn,  
Fired wi' a zeal expandin', creatin' beautilous castles,  
An' frae modest hoos expenses, making' ornate tints an'  
tassels.

An' we hae th' anes among us wha's delightful work wull  
show,  
An inspiring touch o' genius frae auld Michael Angelo;  
They are carvin' marble faces, statuettes or fountain bowls  
For the joy o' doin' something their sublimer life unfolds.

There are those, too, wha are makin' sketches o' anatomy,  
Drawin' muscles, bones and vessels or some real pathology,  
Etchin' things on bronze or paper, pencilin' outlines o' a  
tree,  
Paintin' dreamland's bonnie pictures that brings joy tae  
you an' me.

Oh, th' charm oor freen's bequeath us by their modest work  
o' art,  
Can no be in collections or sold upon th' mart.  
It's a thing that is ethereal, fills oor souls wi' great delight,  
An' th' lives that's lived in hobbies shine as stars when it  
is night.

\*Composed especially for the occasion of the annual  
hobby exhibit.

## OBITUARY

### Dr. G. H. Ferguson

Dr. George Harry Ferguson died at his home in Saginaw, Michigan, March 1, 1935. He was born of Irish Scotch parentage at Burr, near London, Ontario, April 3, 1877, and remained on the farm



DR. G. H. FERGUSON

until 21 years of age. Graduating in medicine, he began to practice in Saginaw in 1903. About this time, he married Miss Helen Bernard of London, and she along with two sons, John and William, survive him.

Doctor Ferguson was an active member of the County, State, and National Societies; and for years was president of the St. Luke's Hospital Medical Staff. He specialized in Obstetrics, but was best known as a much beloved family physician, whose cheery words of encouragement brought comfort to many Saginaw homes.

Because of our intimate acquaintance, I desire to pay a personal tribute to the high character of his work, to his sterling integrity, and to the esteem in which he was held, not only by his confrères but by the community at large. His passing is a community loss.

W. F. ENGLISH, M.D.

### Dr. J. G. R. Manwaring

Dr. J. G. R. Manwaring of Flint died at his home April 17 after an illness of three years. Dr. Manwaring was born in Imlay City in 1877. He attended and passed from the Lapeer High School to the University of Michigan, where he obtained his medical degree in 1901. Following two years as interne in the University Hospital, Dr. Manwaring began practice in Flint in 1903. He carried on a general practice until 1913, when he limited his practice to surgery. He was fellow as well as one of the founders of the American College of Surgeons. Dr. Manwaring was extremely active in medical affairs and had served on committees for county,

state, and national medical organizations. He was one of the originators of the Flint Wranglers Club, a discussion organization, whose members were composed of business and professional leaders of Flint. Dr. Manwaring is survived by his wife whom he married in 1904; two sons, J. G. Manwaring, Wellesley Hills, Mass., and John T. Manwaring, student at McGill University, Montreal; and a daughter, Mrs. T. C. McGee, of Flint. Dr. Manwaring was a member of the Genesee County, Michigan State and American Medical Associations.

#### Dr. Frederick P. Bender

Dr. Frederick P. Bender of Detroit died April 8, 1935. Born August 9, 1874, at Ceresco, Michigan, Dr. Bender was educated in the Marshall High School, Albion College, and the University of Michigan, obtaining his medical degree from the University of Michigan in 1902. For seventeen years he practiced medicine in Caro. During the World War he was captain in the Army Medical Corps. He came to Detroit in 1919. Dr. Bender was a member of the Wayne County Medical Society and the Michigan State Medical Society. His wife Eunice, two daughters, a son, a stepdaughter, three brothers and two sisters survive.

### MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner  
LANSING, MICHIGAN

#### Communicable Diseases in 1934

The year 1934 showed some interesting developments in the cases of communicable disease reported. A total of 486 cases of typhoid fever was reported in 1934, compared with 453 cases reported in 1933, and a mean of 441 for the preceding five years. While this represents a slight increase in the number of cases, it is not believed that there were actually more cases of the disease, but that the reporting was somewhat better, as our Bureau of Communicable Diseases has kept in very close touch with all cases of typhoid fever in the past year.

Diphtheria, which has shown enormous declines in the last few years, presented a new low for 1934, with 614 cases reported. There were 1,152 cases in 1933 and 12,075 in 1921. This means that in the twelve years diphtheria has decreased about 95 per cent.

Whooping cough remained practically stationary, there being 11,255 cases reported, as compared with 11,720 in 1933. Scarlet fever showed a considerable increase, rising from 16,418 cases in 1933 to 19,238 cases in 1934.

The year 1934 was distinctly not a measles year, there being 6,497 cases reported for the year, as compared with 42,129 in the peak year of 1932. During the closing months of the year, however, the incidence showed a marked tendency to rise, and it is probable that we will have a large number of cases reported in 1935.

There were only 49 cases of smallpox reported in 1934, as compared with 46 cases in 1933. In comparison with the mean of 1,190 cases for the preceding five years, it is interesting that 1934 reported only about 4 per cent of the expectancy.

Meningococcus meningitis cases reported totalled 53, as compared with 86 in the preceding year. Poliomyelitis increased, with 230 cases reported in 1934 as compared with 93 in the preceding year.

One of the very interesting developments was the

sharp increase in the number of cases of pneumonia reported. There were 4,889 cases in 1934 and 4,034 in 1933. We know that pneumonia is never completely reported and in view of the fact that there was no apparent increase in influenza incidence it would be interesting to know why we had an increase of 20 per cent in our number of reported cases of pneumonia as we have no reason to think that the reporting was any more complete in 1934 than in 1933.

There was a considerable falling off in the number of cases of tuberculosis, there being only 5,700 reported in 1934 as compared with 6,624 in 1933. It seems evident that the tuberculosis death rate will show a decrease in 1934 but the figures are not yet complete.

Two diseases which are relatively new from a public health standpoint, but seem to be of increasing significance, are tularemia, of which there were 12 cases reported in 1933 and 21 in 1934, and undulant fever, variously called Malta fever and Mediterranean fever, of which there were 81 cases in 1933 and 102 in 1934.

#### Measles

The measles outbreak predicted for the spring months materialized as anticipated. During January, February and March of 1935 there were reported 15,947 cases. The greatest number of cases reported in any one year was 42,129 in 1932, and, in the first three months of that year were reported, 6,308 cases.

The present outbreak began much earlier than the one three years ago and has every appearance of equalling or exceeding it in number of cases reported. Relatively few communities have so far been visited and these communities have had quite sharp but local outbreaks. Some of the communities first affected were Ironwood, Marquette, Hillsdale, Saute Ste. Marie, Flint, Detroit, Niles, and Genesee and Oakland Counties.

Many inquiries have come from physicians as to a supply of convalescent serum or placental extract to be used for the prevention or modification of measles. Because of the scarcity of these products and as a substitute for them, the Michigan Department of Health has advocated the use of adult whole blood to be injected intramuscularly during the fifth or sixth day after exposure. This procedure modifies the attack and leaves a lasting immunity.

#### Additions to Biologic Plant

Four of the six buildings being constructed at the biologic plant of the Michigan Department of Health under an FERA grant, using welfare labor, have been completed. These include a small animal house, an operating room for bleeding, injection and necropsy of horses, a root cellar for the storing of roots for winter feeding, and a storage warehouse.

The two buildings still under construction are an addition to the main laboratory and another small animal house for quarantine.

In spite of the handicap of winter weather, construction has proceeded with great rapidity and in an exceptionally satisfactory manner. The cost has been less than the contractor's estimate.

#### New Staff Physician

Ruth E. Stocking, M.D., has been appointed to fill the vacancy on the staff of the Bureau of Child Hygiene and Public Health Nursing caused by the resignation of Dr. Goldie Corneliuson. Doctor Stocking's work will be the teaching of Women's Classes in Child Care, and her first schedule will open in Clinton County on April 22.



# Talks to County Medical Societies

Physicians from the State Department of Health have given talks on the use of the biologic products distributed by the department to twenty-eight county or district medical societies comprising 44 counties. There are still several societies from which invitations have been received that have not been visited. The response and interest have been very good.

## GENERAL NEWS AND ANNOUNCEMENTS

Dr. B. H. Van Leuven, Councilor of the Thirtieth District, was elected mayor of Petosky at their recent election.

\* \* \*

Dr. Angus McLean was elected member of the Detroit Board of Education for the third time, polling over 125,000 votes.

\* \* \*

The nineteenth annual clinical session of the American College of Physicians will be held in Philadelphia April the twenty-ninth to May third.

\* \* \*

Dr. H. L. Huber, University of Chicago, was the speaker at the April meeting of the Calhoun County Medical Society, Battle Creek. His subject was "Allergy in Everyday Practice."

\* \* \*

Dr. Richard R. Smith, president of the Michigan State Medical Society, returned to his home in Grand Rapids the last of March after a six weeks' sojourn at Nassau, Bahama Islands.

\* \* \*

The Ear, Nose and Throat division of Harper Hospital, Detroit, held a special clinic, May the third, from nine to eleven o'clock, during which time outside otolaryngologists took part in the program.

\* \* \*

The Annual Harper Hospital Alumni and Staff Dinner will occur on May 23, 1935, at the Recess Club in the Fisher Building, corner of Second and Grand Boulevards, at 7 P. M., \$2.00 per plate. All former internes are cordially invited to attend.

\* \* \*

Detroit during the week of April the eighth to April the thirteenth was the host city of the annual convention of a very important scientific body, The Federation of American Societies for Experimental Biology. Nearly all the papers and addresses presented had an important relation to clinical medicine.

\* \* \*

# Academy of Physical Medicine

The annual meeting of the Academy of Physical Medicine will be held June 12 and 13, at the Claridge Hotel, Atlantic City, New Jersey. For further information address Arthur H. Ring, M. D., secretary-treasurer, Arlington, Mass.

\* \* \*

The Michigan section of the American College of Physicians met at the University Hospital, Ann Arbor, March the twenty-eighth, and listened to a very interesting program, symposium, on the Human Constitution by various members of the medical faculty. Dr. J. D. Bruce, member of the Board of Governors of the College, presided. After dinner a general discussion on the subject of Post-Graduate Medical Education took place.

Dean Irving S. Cutter of the Northwestern Medical School, Chicago, addressed a joint meeting of the Wayne County Medical Society and the Woman's Auxiliary to the Medical Society, April the eighth, on the subject "Contemporary Medicine." This was the final of a series of six lectures on the History of Medicine, the other five by members of the Medical Society on Medical History, before the Woman's Auxiliary.

\* \* \*

An intensive program of public education for the conservation of sight of men, women, and children (everybody) was presented in Detroit, April eighth to April thirteenth, under the auspices of the Detroit Department of Health and Board of Education with the cooperation of the National Society for the Protection of Blindness. The program consisted of popular lectures each day before various audiences, nurses, teachers and welfare social workers, students and others.

\* \* \*

A new state Tuberculosis Sanitarium is to be erected at Gaylord, Michigan. The addition to the State's hospital system will be built from malt tax funds in accordance with a law passed by the 1933 Legislature, setting aside \$250,000 of such money for the purpose. The law provided that the money should be set aside by the state treasurer on March 31, 1935, and construction started immediately. The State Department of Health has already approved the proposed site, one mile north of Gaylord at the highest point in the Lower Peninsula.

\* \* \*

The Detroit Branch of the American Urological Association met at the Statler Hotel on Wednesday, March 20, at 3 P. M. The afternoon program was under the direction of Dr. H. W. Plaggemeyer. Papers were presented by Dr. Wm. E. Keane, Dr. Carl Weltman, Dr. Harold Morris and Dr. Reed Nesbit of Ann Arbor. The afternoon program was followed by a dinner at 7 P. M. The evening program consisted of Symposium on Stricture of the Urethra. Papers on this subject were presented by Dr. Fred Cole, Dr. Charles McIntyre of Ann Arbor and Dr. E. L. Bradley of Pontiac. About forty members of the Association attended this meeting.

\* \* \*

More and more, medicine and the fundamental sciences become associated in the common effort for the good of mankind. The following program is especially suggestive of a joint interest in the newer things in physics and their application to medical research.

## THE INSTITUTE OF RADIO ENGINEERS

The Detroit Section  
Regular Meeting  
Friday, April 19, 1935  
—Subject—

## ELECTRONICS IN MEDICINE

Under the direction of Dr. P. F. Morse, Director of the Laboratories of Harper Hospital, a very interesting program has been worked out. The various subjects and speakers will be:

"New Concepts of Physics as Related to Medical Research"  
Dr. Kenneth Corrigan, Ph.D.

"Demonstration of Apparatus for Measurement of Skin Temperature, Colorimetry and Dielectric Loss Angle in the Human Body"

P. F. Morse, M.D., and G. D. Coolidge, B.S.  
"Measurement of Nerve and Muscle Chronaxie by Condenser Discharges"

P. F. Morse, M.D.  
"Demonstration of High Voltage X-ray Equipment Used in the Treatment of Cancer"  
Dr. Trian Leucutia, M.D.

\* \* \*

## Will Accept Any But Mental Cases

One hundred additional beds have been made available for veterans at Marine Hospital, Windmill Point, Leon B. Gridley, director of the Detroit

Servicemen's Bureau, announced April 16. The addition raises the total accommodations for veterans at Marine Hospital to 150 beds. The grant of 100 beds was made by the United States Public Health Service as the outgrowth of a trip to Washington last February by Detroit representatives of the Veterans of Foreign Wars, American Legion and Disabled American Veterans. All types of cases, except mental, will be accepted. Disabilities do not have to be connected with war service.—*News item from Daily Press.*

\* \* \*

### Medicine in Vienna

Doctor Douglas Owen, formerly of Fort Wayne, Indiana, for the past three years at the head of the American Medical Association in Vienna, addressed the Wayne County Medical Society April the fifteenth. In substance, Dr. Owen said, Vienna was in his opinion the best medical center in Europe to study pathology. All cases are hospitalized and all deaths followed by autopsy. Wages and professional fees were very low. A full time professor received the equivalent in American money of \$1200 a year. The fee for a thorough eye examination including refraction was ten cents. A doctor did well if he got a new suit of clothes once in three years; automobiles for professional classes were out of the question; doctors walked in making their professional rounds. This is in visiting patients whose illness was not severe enough to entitle them to hospital care. Once in the hospital the private physician was no longer in control. The American doctor going to Vienna can get along without a knowledge of any other language than his own. The professors and docents spoke excellent English. The cost of living in Vienna was about the same as in an American city if one lived on the same scale. Many Viennese doctors occupied only two rooms, one of which was used as an office by day and sleeping quarters for himself and family at night.

## THE DOCTOR'S LIBRARY

*Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.*

WHAT YOU SHOULD KNOW ABOUT HEART DISEASE. Harold E. B. Pardee, M.D., Asst. Professor of Clinical Medicine, Cornell University Medical School; Associate Attending Physician, New York Hospital, etc.; Second Edition, thoroughly revised. Small 12 mo. 127 pages. Illustrated. Cloth \$1.50. Lea & Febiger, Philadelphia, Pa., 1935.

The chief purpose of this book is to help the patient to follow his physician's directions intelligently. Many times his fears are exaggerated and he feels that his doctor is misleading him or is not being sufficiently frank. He wants a clearer conception of the importance or unimportance of such ominous sounding terms as "murmur," "leaking valve" or "enlargement." He wants to know what is harmful for him to do and he seeks instructions sufficiently detailed so that he may not fail to grasp anything of vital importance. This book tells the patient just what his physician wants him to do and enables him to assimilate its sound directions at his leisure.

A TEXTBOOK OF SURGERY, For Students and Physicians: By W. Wayne Babcock, A.M., M.D., LL.D., F.A.C.S., Professor of Surgery and of Clinical Surgery in The Temple University; Surgeon to The Temple University Hospital and to the Philadelphia General Hospital, Chief of the Surgical Service, U. S. General Hospital No. 6, 1917-1919. Second Edition, Rewritten. 1312 pages with 1032 illustrations and 8 plates in color. Philadelphia and London: W. B. Saunders Company, 1935. Cloth, \$10.00 net.

In this second edition of Babcock's surgery the author has revised every chapter and he has rewritten much of the text. In addition to much new material we have 150 new illustrations. There are new sections on the parathyroid glands, the sympathetic nervous system, the duodenum, the mesentery and omentum, the epiphyses, and the malacias of bone. The author also discusses the relative sensitivity of tumors to radiation therapy, particularly in regard to the indication for x-rays and radium and the grenz rays. The newer anesthetics are considered, among them vinyl ether, cyclopropane, evipan sodium, avertin, nupercaine, tutocaine, pantocaine as well as intravenous and rectal anesthesia. So complete is this as a single volume that it is difficult for the reviewer to select any chapter or section of superior excellence. As a working section, however, for the physician in general practice the chapter on bones will have a special appeal since he sees most of the fractures and dislocations first. In addition to bone pathology proper, the subject of bone injuries is dealt with graphically in pictures as well as concisely in the printed text. The latest and most approved methods of treatment are given in detail. For the surgeon of experience the work will constitute a convenient manual or desk book. It is completely indexed for ready reference.

COLLENS DIET WRITING. By Wm. S. Collens, B.S., M.D. Brooklyn, N. Y. Chief of Diabetic Clinic, Israel Zion Hospital. Form Publishing Co., 200 Hudson Street, New York City. Price \$5.00.

The reviewer is so well impressed with this "System of Diet Writing," which includes a Diet Calculator and Diet Formulary, that he keeps it handy on his desk and uses it frequently. There are many diet forms put on the market in these days when prescriptions for diet are so commonly required. This is one of the best, and for diabetic calculations, one of the simplest. It is in loose leaf form, forty-two pages, to which is added one hundred Menu Prescription Forms, and makes a book nine by six inches, convenient for desk reference.

## CLASSIFIED ADVERTISEMENTS

### ASSISTANCE TO MEDICAL WRITERS

Research, Abstracts, Translations. Papers prepared. Personal work, not a Bureau. Twelve years' medical literary experience with leading medical societies and journals.

Florence Annan Carpenter  
413 St. James Pl., Chicago, Ill.

FOR SALE—Grand Rapids—20 bed, brick hospital, partially equipped. Modern, new, well located. Suitable for specialists or general practice. Also 10 room doctor's residence (brick). Sell for about 1/3 today's value to close estate. Grand Rapids Trust Co., Grand Rapids.



# THE JOURNAL

OF THE

*Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOL. 34

JUNE, 1935

No. 6

## A LOW CALORIE KETOGENIC DIET FOR THE TREATMENT OF CHRONIC URINARY TRACT INFECTIONS\*

REED M. NESBIT, M.D.,† CURTIS H. McDONNELL, M.D.,‡ and  
GENEVIEVE C. ROURKE, B.E.§

ANN ARBOR, MICHIGAN

The innumerable therapeutic agents that have been recommended for the treatment of urinary tract infections are eloquent proof of their inadequacies. Since Helmholz<sup>3</sup> discovered that ketone bodies in the urine inhibit the growth of certain micro-organisms, a new chapter in the treatment of urinary tract infections has been written. Helmholz<sup>3</sup> and Clark<sup>1</sup> in 1931, demonstrated the value of the ketogenic diet in the treatment of bacillary infections of the urinary tract. Helmholz<sup>4</sup> has shown that the efficacy of this regime is dependent upon two factors: (1) that ketone bodies be present in the urine in a sufficient concentration, and (2) that a pH of 5.5 or less must obtain. A. T. Fuller,<sup>2</sup> an English biochemist, has shown that the mode of action of the diet is due to the bacteriostatic effect of the levo-rotatory beta-hydroxybutyric acid. He also pointed out that the activity of this substance increases in proportion to the acidity of the urine.

Reported series of cases show that 60 to 75 per cent of chronic bacillurias are cleared up on this form of treatment. Our experiences with the ketogenic diet have substantiated these observations. The majority of our cases had, moreover, failed to respond to other forms of therapy.

The standard ketogenic diets consist of a large amount of fat, an adequate amount of protein, and a minimal amount of carbohydrate. Ketosis develops because the available glucose is inadequate to completely oxidize the fats.

Fifty patients were treated by the administration of the standard high fat ketogenic diet in the University Hospital. Excellent results were observed in this series of patients, but the high fat content of the diet produced gastric upsets in the majority, a few being unable to tolerate it at all. Modifications of the diet were therefore made in an effort to remove this objectionable feature.

It has long been recognized as a fundamental principle of metabolism that the organism is not dependent upon exogenous fat for its metabolic mixture, calling upon its endogenous supply whenever the energy of the diet is below the expenditure of energy.<sup>6</sup> This being true, the production of ketosis is solely dependent upon an in-

\*From the Departments of Surgery and Dietetics, University of Michigan. Read before the Detroit Academy of Surgery, Ann Arbor, March 14, 1935.

†Dr. Reed M. Nesbit graduated from Stanford Medical School, 1925. He is Associate Professor of Surgery, University of Michigan Medical School and is in charge of Department of Urology, University Hospital.

‡Dr. Curtis H. McDonnell is a graduate of the University of Michigan Medical School, 1932. He is instructor, Department of Surgery, University of Michigan Medical School.

§Genevieve C. Rourke, B.E., is a graduate of the Central State Teacher's College, Stevens Point, Wisconsin. She is instructor in Dietetics, University of Michigan Medical School.

adequacy of available glucose. This must be supplied from exogenous sources. In starvation, where the caloric requirements of metabolism are almost entirely dependent upon the utilization of endogenous fat, one sees the most rapid and profound degree of ketosis.

A diet containing two-thirds of a gram of protein (normal adult requirement) and one-third of a gram of carbohydrate per kilogram has been used as the basis for a diet in the treatment of some 80 patients at the University Hospital. Only a sufficient amount of fat to make the diet palatable is utilized. This diet is necessarily far below the energy requirement. It was palatable to every patient, no gastric upsets occurred, and ketosis developed as promptly as it did in those patients on a high fat regime. Estimations of the metabolic mixture in all of the cases in this series have shown the fatty-acid glucose ratio to be between four to one and five to one, regardless of the amount of fat ingested. The question regarding weight loss resulting from this low calorie diet naturally arises. This seems unimportant inasmuch as practically all patients requiring treatment are of approximately normal weight or over. However, very little weight loss actually does occur during the short period of treatment and is of little consequence to the patient of normal weight and advantageous to the obese. The emaciated patient is not considered a suitable subject for any form of ketogenic therapy.

A large proportion of our cases are treated as in-patients and the diets for this group are individually calculated and prepared by the Department of Dietetics. These diets and the method of calculation are being presented in detail in another publication. A simple diet, low in calories and available glucose, has been devised for our out-patients and is applicable to office practice. It is a standard diet and is ketogenic for patients weighing 115 pounds and over. Children's diets must be calculated on the basis of the caloric requirement of the individual.

### A Low Calorie Ketogenic Diet

Caloric requirements (1800-3500 calories)  
Ratio FA/G = 4:1 or greater  
Protein—40 gms., carbohydrate—15 gms., fat—39 gms. (?)  
Calories—570, available glucose—37 gms.

### Menu Plan

#### Breakfast

Egg—1  
Bacon—2 long strips  
Cream or milk—1 tablespoon  
5% vegetable—½ cup cooked  
\*Bran wafers as desired  
Butter as desired  
Tea or coffee

#### Luncheon

2 eggs or 2 ounces of meat or fish or 3 table-  
spoons of cottage cheese  
5% vegetable—½ cup cooked or ½ cup raw  
5% fruit  
Cream or milk—1 tablespoon  
\*Bran wafers as desired  
Butter or mayonnaise as desired  
Tea or coffee

#### Dinner (the same as Luncheon)

#### Sample Menus for Day

#### Breakfast

1 egg fried with 2 strips of bacon  
½ cup of tomato juice  
Bran wafer with butter  
Coffee with 1 tablespoon of cream

#### Luncheon

Cottage cheese—3 tablespoons  
1/5 head of lettuce with 2 tablespoons of mayon-  
naise  
Bran wafers with butter  
Coffee or tea with 1 tablespoon of cream

#### Dinner

Steak—2 ounces  
Cooked spinach—¼ cup with butter  
Raw celery—2 stalks  
Bran wafer with butter  
Coffee or tea with 1 tablespoon of cream

No sugar allowed. Chewing gum, chewing tobacco, toothpaste, sweetened cathartics, etc., are not allowed. Saccharine may be used for sweetening. Fruits must be fresh or canned without sugar. Mayonnaise should be made without sugar.

#### Classification of Fruits and Vegetables According to Carbohydrate Content†

#### 5% Vegetables

Asparagus  
Bean sprouts  
Broccoli  
Cabbage  
Cauliflower  
Celery  
Chard  
Chinese cabbage  
Cucumber  
Egg plant  
Endive  
Greens, beet  
Greens, mustard  
Kohlrabi  
Lettuce  
Okra  
Peppers

\*Bran wafers must have no available carbohydrate.

Cellu-wafers, Chicago Dietetics Supply House, 152 N. Wabash, Chicago.

†We are indebted to Miss Frances MacKinnon, A.B., of the Department of Dietetics, for her aid in preparing the above diet tables and classification of fruits and vegetables.



Pumpkin  
Radish  
Spinach  
String beans  
Summer squash  
Tomatoes  
Turnips  
Watercress

#### 10% Vegetables

Beets  
Brussels sprouts  
Carrots  
Dandelion greens  
Leeks  
Olives, green  
Onions  
Rutabagas  
Winter squash

#### 10% Fruits

Blackberries  
Cranberries  
Currants  
Gooseberries  
Grapefruit  
Lime juice  
Oranges  
Orange juice  
Peaches  
Tangerines

1 cup 5% Veg. =  $\frac{1}{2}$  cup 10% Veg.

#### 5% Fruits

Honey dew melon  
Lemon juice  
Muskmelon  
Rhubarb  
Strawberries  
Watermelon

The degree of urinary acidity necessary for satisfactory results is usually not produced by the ketogenic diet alone. Ammonium chloride is therefore administered during the course of the diet to increase the acidity. Two grams three times a day in enteric coated tablets generally suffices.

Herrold<sup>5</sup> has shown that chlor-phenol red is the indicator of choice for the estimation of the approximate acidity of the urine. One drop of the indicator is added to 20 drops of the freshly voided urine. If the color of the urine does not change, the pH is approximately 5.4 or less, which is the desired degree of acidity. If the urine is pink or red following the addition of the indicator, the acidity is above pH 5.4 and therefore insufficiently acid. The urea splitting organisms in these urines are capable of increasing the pH in short periods of time on standing.

A simple test for ketone bodies in the urine is the ferric chloride test for diacetic acid. To 10 c.c. of urine, add an equal volume of a 10 per cent aqueous solution of

ferric chloride. The presence of diacetic acid is indicated by a Bordeaux-red color. It should be remembered that salicylates will give a false positive reaction.

Estimations of pH and the ferric chloride tests for ketonuria are carried out daily. Examination of stained sediment is done every third day to determine the regression of the infection. When negative sediment is obtained, a culture is made which, if negative, is an indication for the discontinuance of the diet. Most patients show a clear urine at the end of 10 to 14 days. If bacilluria persists beyond this period, it is felt that a mixed diet should be resumed and the patient advised to return to the ketogenic diet after a rest period of two to four weeks. Occasionally, several periods of treatment on the regime may be necessary.

Unsatisfactory results may obtain for several reasons, many of which are preventable.

There is a certain group of cases that are not benefited by this regime.

Failure to develop ketonuria may result from inadequate exercise.

Adequate ketonuria with inadequate acidity inevitably results in failure.

Failure to develop ketonuria may be traceable to additional sources of exogenous glucose.

Ketonuria may not develop in some patients having poor renal function.

### Conclusions

The ketogenic diet is a valuable adjunct in the treatment of urinary tract infections.

The conventional ketogenic diet because of its high fat content is intolerable to many patients.

A low fat, low calorie diet which eliminates this objectionable feature is proposed.

Ketonuria and a low pH (5.5 or less) must co-exist for successful results.

### Bibliography

1. Clark, A. L.: *Escherichia Coli* Bacilluria under ketogenic treatment. *Mayo Clinic Bull.*, 6:605 (Oct. 14) 1931.
2. Fuller, A. T.: The ketogenic diet: Nature of the bactericidal agent. *Lancet*, 1:855-856, (April 22) 1933.
3. Helmholtz, H. F.: The ketogenic diet in the treatment of pyuria of children with anomalies of the urinary tract. *Mayo Clinic Bull.*, 6:609, (Oct. 14) 1931.
4. Helmholtz, H. F. The bactericidal effect of ketonurine. *Proc. Staff Meet. of Mayo Clinic*, 7:260, (May 4) 1932.
5. Herrold, R. D., and Ewert, E. E.: A simplified test for the determination of the approximate acidity of urines. *Urol. and Cut. Rev.*, 37:607, (Sept.) 1933.

## DIABETES INSIPIDUS AFTER EPIDEMIC ENCEPHALITIS

L. E. HIMLER, M.D.†

ANN ARBOR, MICHIGAN

There is ample evidence in the literature to establish the fact that the syndrome of diabetes insipidus can be produced by a localized pathological process in the region of the infundibulum, tuber cinereum, and hypothalamus. The discovery of Bailey and Bremer<sup>1</sup> in their experimental work on dogs that thirst may precede the polyuria shifted the emphasis from the polyuria to the polydipsia. A short time later Curtis<sup>2</sup> produced further evidence to support the view that in experimental diabetes insipidus thirst is the primary factor. Recently Alajouanine et al<sup>3</sup> reported a case in which the patient was seized with an unquenchable thirst while undergoing an operation for removal of a pituitary adenoma under local anesthesia, and the polyuria did not appear until a day or two later. It is therefore logical to believe that polyuria and polydipsia as a complication of other lesions in this region, such as fractures, basilar syphilis, interpeduncular tumors, hydrocephalus internus, as well as epidemic encephalitis, can be explained by the same mechanism.

Because the polyuria is entirely a secondary phenomenon, the term "pseudo-diabetes insipidus" has been applied to this syndrome. It should be distinguished from genuine diabetes insipidus, which is characterized by a compulsory polyuria with urine of very low specific gravity, low concentration capacity of the kidneys, and, on account of the polyuria, a secondary polydipsia. Pseudo-diabetes insipidus resulting from a disturbance of the thirst regulating center has been frequently observed after trauma, but after epidemic encephalitis it is relatively uncommon. Wohlfart<sup>4</sup> in his review of the subject could find only three certain cases in the literature, and added one of his own. In all of these the encephalitis occurred between the ages of twelve and eighteen, and the polydipsia and polyuria began from a few months to three years later. In our case the onset occurred directly after an acute illness in infancy, and the symptoms persisted unchanged for eighteen years.

## Report of Case

The patient, twenty-two years old, male, entered the University Hospital on October 8, 1934, com-

plaining of nervousness, shaking of the left hand, increased thirst, and urinary frequency.

*History.*—According to his mother, the patient had a scalp infection at the age of three, followed by an illness which was characterized by somnolence and high fever. Several months later it was observed that he drank large quantities of water, and this symptom persisted through childhood. From the time the patient was a boy his intake remained fairly constant at 5 gallons a day, and the output between 4 and 4.5 gallons. At the age of seventeen he began to be nervous, irritable, impulsive, and stated that when excited he would feel dizzy and dazed. He developed intermittent headaches localized to the forehead and just behind the eyes. During the daytime he would have uncontrollable impulses to sleep, and at about the same time he developed spells during which his left eyeball rolled up and jerked. The rhythmic tremor of the left hand was also first noticed about four years before admission. There was progressive general weakness and ease of fatigue, which finally made it impossible for the patient to continue his work.

Family history was negative except that the father was alcoholic.

*Examination.*—The patient was an overly developed, obese, dysplastic young adult, weighing 225 pounds. The fat tissue was evenly distributed. His features were coarse and there was definite masking of the facial expression. There was a typical parkinsonian tremor of the left hand, but not of any other extremities. The skin was seborrheic and there was a tendency to increased sweating. Body hair and genitalia were normal. The fingers and toes were short, thick, and the subcutaneous tissue seemed puffy. Heart, lungs, and abdomen were negative. The blood pressure was 175/90. The cranial nerves were negative except that the left pupil was slightly larger than the right. Sensation and reflexes were normal. The ocular fundi and the visual fields were normal. The intelligence appeared to be fairly high, and there was no memory defect.

*X-rays.*—The routine skull examination was entirely negative and the sella was within normal limits of size. Encephalogram after replacement of 110 c.c. of spinal fluid with 100 c.c. of air revealed diminished subarachnoid markings over the left cortex, suggestive of arachnoid adhesions. Drainage was not complete, but there was no evident displacement of the ventricular system.

*Laboratory Data.*—The blood Kahn examination was negative. Urinalysis was negative and the specific gravity ranged between 1.003 and 1.006. Examination of the blood revealed 100 per cent hemo-

†Dr. L. E. Himler was graduated from the University of Michigan Medical School in 1931, since which time he has specialized in Neurology. For the past two years he has been instructor in Neurology at the University Hospital.



Type of medication	Days	Average Intake	Urinary Output
General diet without medication.....	11	11,420	7,175
Pituitrin (surg.) 1 c.c. I.M. daily.....	12	13,860	6,100
Pituitrin (surg.) 1 c.c. I.M. q.d.....	15	8,810	3,420
Pitressin jelly, 1 gm. t.i.d. (nasally).....	4	11,390	6,110
Pitressin nasal spray, 2 c.c. (20 units) t.i.d.....	9	7,105	4,250
Hyoscine hydrobromide gr. 1/100 t.i.d.....	5	10,630	7,000
Hyoscine hydrobromide gr. 1/150 t.i.d. } Stramonium folia gr. 2 t.i.d. } Hyoscine hydrobromide gr. 1/150 t.i.d. }	8	13,335	8,480
Stramonium folia gr. 2 t.i.d. } Ephedrine sulphate gr. $\frac{3}{8}$ t.i.d. } Stramonium folia gr. 2 t.i.d. }	8	9,770	5,885
Ephedrine sulphate gr. $\frac{3}{8}$ t.i.d. } Pitressin nasal spray, 2 c.c. t.i.d. }	10	7,580	5,465

globin (Sahli), 5,710,000 red blood cells per cu. mm., 10,700 white blood cells per cu. mm., and a normal differential count. The basal metabolic rate was plus three. The fasting blood sugar was 64 mg. per 100 c.c. A glucose tolerance test showed 126 mg. per 100 c.c. the first hour, 125 the second, and 99 the third, and a trace of sugar was found only in the third hourly urine examination. Lumbar puncture revealed a manometric pressure of 240 m.m. of water. The spinal fluid Kahn reaction was negative. There were two cells per cu. mm. The carbolic and ammonium sulphate tests were negative for globulin. The total protein was 35 mg. per 100 c.c. The spinal fluid sugar was 56 mg. per 100 c.c., which was 81 per cent of the simultaneously determined blood sugar. Urea clearance test gave 91 per cent on the first examination and 95 per cent on a second examination. Phenolsulphonephthalein test showed 35 per cent excretion during the first fifteen minutes and 47 per cent in thirty minutes. The wheal produced by 0.2 c.c. of physiological saline injected intradermally disappeared in twenty-five to thirty minutes (McClure-Aldrich absorption test).

### Comment

It was observed that this patient demonstrated almost all of the symptoms of the so-called neuropituitary syndrome, namely, polydipsia, polyuria, obesity, elevated blood pressure, tendency to somnolence, headaches, and mild emotional and psychic disturbances. Only glycosuria, epilepsy, and disturbances of thermogenesis were lacking. The febrile illness which preceded the onset of the polydipsia in infancy was undoubtedly an attack of epidemic encephalitis. The subsequent development of parkinsonism and oculogyric crises fourteen years later leaves little doubt that in this case we are dealing with the sequelæ of lethargic encephalitis. Because of the close proximity of the globus pallidus and substantia nigra to the hypothalamus, it can be readily understood how an inflammatory process in the basal ganglia may by slight extension medially involve the region in which the diencephalic thirst center is located.

Various types of medication were tried in our case in an attempt to reduce both the parkinsonian tremor and the excessive desire for fluids. As shown in the accompanying table, the usual drugs for parkinsonism failed to have an appreciable effect on the intake and output. Hyoscine seemed to decrease the polydipsia slightly, but was not well tolerated. Stramonium appeared to have a better effect on the tremor, but caused an increase in the fluid intake. Ephedrine sulphate had a slightly lowering effect on the intake. Pitressin jelly had little effect, possibly because of the difficulty of administration. Pituitrin intramuscularly four times a day, and pitressin nasal spray every six hours, were definitely the two most valuable agents in reducing the polydipsia and polyuria. When the intake was kept between 6,000 and 8,000 c.c. daily the patient also felt generally more comfortable. The possibility of a psychogenic element was excluded by substituting sterile hypodermics at the time pituitrin was being given, and there was a prompt rise of the intake to the original level within a day.

It is generally believed that the prognosis of diabetes insipidus is especially bad if the condition occurs in youth. The persistence of symptoms in our case for nineteen years would indicate that they are in all probability permanent. In this respect the diabetes insipidus bears the same general prognosis as other sequelæ of epidemic encephalitis. In view of the organic nature of the underlying cause, it is doubtful if any therapy for the abnormal thirst sensation can be more satisfactory than that for the parkinsonism. What beneficial effect is obtained seems to be due to intermeditation of the pituitary. The exact physiological relationship between hypophysis

and hypothalamus, and the manner in which it is influenced by the administration of posterior lobe extracts, has not as yet been determined.

### Summary

A case of secondary diabetes insipidus following epidemic encephalitis in infancy is presented, with evidence to support the

view that the polydipsia in such cases is primary, caused by involvement of the hypothalamic thirst center.

### References

1. Alajouanine, T., deMartel, T., et al.: *Rev. Neurol.*, 1:65, (Jan.) 1934.
2. Bailey, P., and Bremer, F.: *Arch. Int. Med.*, 28:773, (Dec.) 1921.
3. Curtis, G. M.: *Arch. Int. Med.*, 34:801, (Dec.) 1924.
4. Wohlfart, G.: *Acta med. Scandinav.*, 80:454, 1933.

## MAJOR AND MINOR MEDICAL MORALS

LEWELLYS F. BARKER, M.D.

BALTIMORE, MARYLAND

In discussing briefly the subject of medical ethics with the students of this medical school I shall bear in mind the fact that before entering upon your medical studies you must, in your college courses, have become acquainted with ethics or the science that deals with conduct from the standpoint of its being right or wrong, must have learned to look upon moral problems as being truly real, and must have become convinced of the value of giving due thought to the solution of such problems. You were told how the terms "ethical" and "moral" referred originally to customs or usages that had gained approval and only later came to be applied to disposition and character. Some of you doubtless had courses in psychology that threw light upon the inner side of conduct, upon choice and purpose, as well as courses in biology and sociology that illuminated the outward side of conduct, its relations to nature and to human society. And in your studies of ethics you found how choice is influenced by the rights of others and how actions are accordingly judged as being either good or bad. In analyzing moral life you must have been impressed by the dominance of ideal as contrasted with merely material interests and by the evidences in social life of sincere regard for others; you became acquainted with the existence of moral standards and their origin, and with the development of a love of such standards as conscientious attitudes with conceptions of the right and of duty that emerged from instinctive activities through attention, through habit, and through the gradual organization of character by virtue of idealizing and socializing processes. I may, therefore, take it for granted that your knowledge of ethics in general is such that I may without further reference to the nature of morality or to the theory of the moral life devote the hour exclusively to certain applications of ethics that pertain especially to the lives of those who engage in the work of the medical profession.

At the outset, let me assure you that you need have no especial dread of unconscious breaches of the code of medical ethics; there is so much talk of it that many recent graduates are, I imagine, beset by the fear that they may, through ignorance, commit some offense that will bring them into disfavor among their fellow practitioners. But any young practitioner of today who has gone through college and the medical school, who has had the opportunity of watching his teachers at work in the study and treatment of patients, and who has himself laid the general foundations of right conduct, has a due sense of moral obligation and has a genuine desire to do unto others as he would that others should do unto him need have no fear of this bugbear. For, as far as the major morals of medical ethics are concerned, dealing as they do with the protection of human life, and with fair treatment of patients, of other doctors, and of the public at large, you are not likely to go astray; you will not become abortionists, or poisoners, or liars, or wilful deceivers of patients, or stealers of patients from other doctors, or quack practitioners of illegitimate pretensions, or extortionists. And, even in connection with the minor morals of the profession, which we call "medical manners" (or "medical etiquette"), you are not likely to make many errors if you will but follow the Golden Rule, and if you will



read the Code of Ethics of the American Medical Association. Medical manners, like ordinary manners, have to be learned, it is true. Young practitioners learn much about them by observing the behavior of their seniors; but there probably is room for an occasional talk to the senior students of the medical schools with regard to the minor morals of medicine concerning which the medical fledgling might sometimes be in doubt.

*Physician and Patient.*—In the medical school, the student is taught much about the diagnosis and cure of disease; in practice the doctor has to deal with sick human beings. Medical science is largely impersonal, whereas medical practice is largely a personal matter. The medical practitioner dare not handle a sick person as he would a healthy person, and the doctor who is sympathetic and tactful, who exhibits sound judgment, and who is lucky in the possession of what is called "common sense" will often be more successful in practice than his colleagues who may have greater scientific knowledge and training but who are lacking in the human qualities that win the favour, the confidence and the gratitude of patients. Fortunate is the doctor who is well-equipped on both the scientific side and the human side. But, alas, the extraordinary diagnostic skill of an Osler is not always associated with the optimism and the joviality that he showed; the admirable surgical technic of a Finney is not always combined with the good nature he manifests and the smile that he wears; nor would the reputation of a Wilmer be as great in ophthalmology as it is if his knowledge and skill were not supplemented by the gift of making his patient feel that his keenest interest has been excited in the treatment to be applied. It is a great art to know how to ingratiate one's self with a patient, to make a sick person feel that he is of maximal importance in the mind of the doctor for the time being, to know just how much time one must spend in listening to a patient's tale of woe, especially when that patient has the kind of memory that is spoken of as "total recall" and indulges in endless iteration or, as someone has wittily said, "likes to Fletcherize his troubles!" Here the doctor without great patience and without a lively sense of humour is lost; with these qualities, however, and with a certain subtle resourceful-

ness, the wise physician will listen long enough to satisfy, or will, when necessary, by means of some sudden quip, an unexpected story, or a verbal conceit, divert the patient's attention temporarily and, without giving offense, make a timely escape! It may be that your better training in psychiatry—your greater familiarity with affective-conative disturbances and with various types of psychopathic personalities—will make you, from the beginning of your practice, more resourceful in the management of difficult types, than were the newly graduated of my time. I hope so. But, if not, you will have to learn through your own experience; in time, through knowledge or perhaps through quickened intuition, you will find out how rapidly to "size up" the personalities that you encounter and the kinds of reactions that you may expect from them; and you will discover how best to get along harmoniously with people of most different types of make-up.

It would seem scarcely necessary to remind you of the importance of observing strictly professional secrecy regarding matters that are told you in confidence by your patients. The physician enters into relationships with persons and families in a manner not vouchsafed to others; he often learns of events and of situations that the world at large must never know. If he should discover that the reason why Miss Mary Smith went to Europe is not the one that is socially current, if he happens to know that the absence of children in Mrs. Jones' family is not Mrs. Jones' fault but due to a sterility of her husband because of earlier gonococcal experience, if he should hear people comment upon how divinely happy the Andersons are in their married life when Mrs. Anderson has just told him that unless her John changes soon and radically in his attitude toward her she really fears that she will be compelled to go to Reno, he will lock his information in his breast and will see to it that none of the closet skeletons shall be discovered by others through him. Occasionally, he may be made the unwilling depository of very unwelcome secrets; should this occur he will, when questioned about them, still cultivate the virtues of reticence and taciturnity with regard to them, or he may divert by assuming the disguise of loquacity and frankness concerning matters that are professionally in-

different. And if the doctor is a married man, let us hope that he may be lucky enough to have the kind of wife, who when asked about the rumor concerning one of her husband's patients will promptly reply "I wish I knew, but my husband makes it a rule not to talk to me about his patients; anything I learn about them I have to find out from other people!"

Some patients will make requests of their physicians that dare not be complied with. Thus, in the matter of certification of either health or disease, there are some persons who will not hesitate to urge their physicians to make statements that they know are not wholly true; in applying for life insurance, for example, they may wish their physician to forget an earlier acute rheumatic fever and a mitral lesion caused by it, or, on being summoned for jury duty, evasion may be attempted by feigning an illness that it is hoped may be certified to exist by the family doctor. Women who find themselves unwillingly pregnant may go to great lengths (in countries in which the interruption of pregnancy is illegal except when the life of the expectant mother is endangered) in their attempts to get a reputable practitioner to induce abortion. Robey tells of an instance in which the uterus was about to be emptied because of what appeared to be an uncontrollable vomiting of pregnancy; just in time, however, the shrewd practitioner in attendance discovered beneath the woman's pillow the feather with which at intervals she had been tickling her pharynx! The cruder method of laying a hundred dollar bill, or a thousand dollar bill, on the doctor's office table with a request for the interruption of pregnancy is less likely to be practised now-a-days, unless the applicant is sure that he is making his offer to some disreputable person known to be a willing law-breaker. Though the time may ultimately come when the interruption of pregnancy early in its course may be legalized in order to prevent the appalling mortality that occurs among those who resort surreptitiously to abortionists, in this country public opinion as yet will not countenance it. A situation that not infrequently arises in connection with abortion is that in which a reputable physician is called in after an abortion has been performed by someone else; in such an event, the doctor who is called, after controlling hemorrhage should refuse

to take charge except in association with a trusted consultant who is willing to share the responsibility with him.

Since proof of the connection of disability with war service has become such an important matter for War Veterans' Compensation, the pressure brought to bear upon medical men to stretch their consciences in the matter of certification has become very heavy. Though many applicants are quite honest in the making of their requests, there are some who are insincere; it may not always be easy to be sure. I remember receiving recently an appealing letter from the widow of an esteemed war medical officer, in which she expressed the hope that I could certify that her husband's fatal illness had been the direct result of his war services, since with such a statement her payments from the government would be such that she could live more comfortably and could give her children a better education; on looking over my records, I found that the doctor when he consulted me had given no history of having had any symptoms of his malady previous to several years after his discharge from the service! It is pathetic in such instances to be compelled to have to disappoint hopes!

In the work at the Diagnostic Centre of the Veterans' Bureau at Mt. Alto, it has been found very helpful to enlist the aid of skilful psychiatrists in the differentiation between legitimate claims to service-connection of disability and sham claims to the same. It is a task for which not every practitioner is well-fitted; even the psychiatric expert may find difficulty at times in distinguishing one who attempts to lie and to swindle from malice aforethought and one who behaves similarly because of certain diseased conditions.

In the relation of physician to patient it should go almost without saying that it is the duty of the practitioner by means of his dress and his deportment to make the most favorable impression that he can in order to inspire the confidence and to secure the coöperation of his patient in whatever ought to be done. The doctor who is scrupulously neat in his personal appearance, who is familiar with and practices the amenities of polite society, who (though remaining sincere) tends to emphasize the cheerful and the hopeful sides of a situation rather than the gloomier view, and who, in his contact



with the sick, evinces a genuine interest in their welfare and a desire to be of help to them is a doctor whom people will welcome and will learn to love.

*Relations to Other Physicians.*—Harmony among medical men is of advantage not only to physicians themselves, but also to the patients for whom they care.

Some men are much more fortunate than others in their possession of the capacity to get on well with their colleagues in the profession. They see the good qualities of their fellow practitioners and, on suitable occasions, give due expression to their appreciation of those qualities; they fall over backward in seeing to it that, as far as they are concerned, every other practitioner shall have a "square deal"; they avoid, as far as they can, the excitation of envy or jealousy in any other doctor and refuse to believe or even to listen to derogatory criticism of other practitioners; and they throw in their lot with the organized profession, joining local, state and national medical societies, attending their meetings when they can, and, without obtrusiveness, participating in programs when they have anything of interest to contribute. There are, however, a few men who seem to be veritable geniuses in the arousal of disfavor and of antagonism; even though they do not go so far as to take patients unethically from other doctors, or as to speak actually disparagingly of their fellows, they have the bent of disposition or the traits of character that make it difficult for them to associate agreeably with others; they are, of course, greatly to be pitied! Luckily, now-a-days, in the colleges and in the medical schools, most men and women have the opportunity of "rubbing down their rough corners" and, through student associations, fraternities and sororities, learn the necessity of "give and take"; unless they have been too severely handicapped by their genotypes, or have been exceptionally unfortunate in the environmental influences to which they were earlier subjected, they enter the profession far better fitted for favorable adaptation than were their forerunners of the preceding century who entered proprietary medical schools without such collegiate and social training. Despite the best training, there will always be some who do not learn when either to hold their tongues or to close their ears! And the over-ambitious,

too, we are likely always to have with us—persons who, however, not infrequently defeat their own purposes by their egocentricity or by their itch for publicity.

About the etiquette of *medical consultations* the young medical graduate should be thoroughly informed. The principal points are stressed in the brief printed codes of medical ethics, but, in addition to study of these codes, it would seem well worth while for the senior medical student to read the discussions of the topic in books on "Medical Ethics" available in the library. In all serious cases, or in cases in which there is room for doubt as to the diagnosis or the best form of treatment the practitioner in charge will be wise to favor consultation and the sharing of responsibility rather than to attempt to avoid it. Your request for consultation will be proof of your desire that the patient may miss no benefit that he could possibly have; moreover, it will be also a protection to you. These facts hold good not only for younger men in practice, but also for those of us who are older. It is far better to foresee the desirability of consultation and to ask the family to permit it, than to postpone it and have it forced upon you by the worried family; for if you suggest the consultation, yourself, you will almost certainly be permitted to call in a competent consultant of your own choice, one suited to the particular case under care, whereas, if you wait until the family or friends demand a consultation, they are all too prone to ask for some special doctor of whom they have heard, perhaps of no especial competence and one not at all to your liking. Even in cases in which there is really no doubt about the diagnosis or the best method of treatment, if you find that the relatives are anxious, it is the part of wisdom to ask if a consultation would not be a comfort and to express your readiness to arrange it if desired. If a particular specialist not of your choice should be urgently requested, you should acquiesce in the selection if he be a regular practitioner in good standing, but it is not necessary to accept an irregular practitioner or a cultist as a consultant. I half-way broke the latter rule once when I was asked to take care of a seriously ill patient who was being treated by a cultist; though I at first refused, I relented later when the family said I would not be asked actually to consult with the

person employed for they would be satisfied if the latter's treatment could be given *in absentia* from a window across the street! Even such an arrangement is not wholly unobjectionable for, if the patient recover, the cultist will probably claim the credit and, if the treatment be not successful, the failure will likely be attributed to your interference!

After the consultant has examined the patient, he and the physician go to another room where, by themselves, they discuss the diagnosis and the treatment. Afterwards, in the presence of the attending physician, the consultant reports frankly the results of the consultation to some member or members of the family, perhaps even to the patient, says a cheering word, if he conscientiously can do so, and leaves. The consultant does not see the patient again during the same illness unless specifically requested to do so by the attending physician. Sometimes, he may be embarrassed later by an urgent request from the family that he take charge of the case, but he must be adamant in his refusal to do so, though he will, of course, be glad to be of any help possible to the physician by whom he was called in consultation.

Aside from actual consultations, a practitioner may be called to see a patient of another doctor because of the enforced absence of the latter or because of some emergency; in such an event, the practitioner so-called should retire from the case and hand it over to the regular attendant as soon as the latter is available.

Appointments with other doctors (as far as possible with patients also) should be punctually kept; should an emergency arise that prevents the punctual keeping of an engagement, the other physician and the patient should be notified immediately by telephone of the necessity of a change, however slight, in the arrangements.

*Professional Fees.*—Owing to the differences in the conditions under which medical services are rendered to patients by physicians, and the great variations in training, skill, and reputation of physicians, surgeons, obstetricians and various specialists, there is difficulty in fixing their monetary value and it is impracticable at present at least, to set up any uniform scale of professional fees. There are, it is true, a few laymen who assert that they wonder why a millionaire

should pay more than a day laborer for a consultation, or why an older physician or surgeon of national reputation should ask more for his services than a recent graduate who has not yet won his spurs; they assume that the making of a diagnosis or the prescribing of a treatment ought to be done for a fixed price, the same for everyone, like the charge for a pound of sugar or tea at a grocery! But this is not likely to become customary under our type of economic system.

A young physician when starting in general practice will do well to learn the usual medical fees for visits in his locality and be guided accordingly, being careful especially not to arouse the antagonism of his colleagues by charging less. Specialists and consultants may gradually increase their fees as they grow in reputation and in demand, but they should be careful, no matter how distinguished they may become, never to forget that medicine is a profession, not a trade, and that it is unworthy of any professional man to lay himself open to the charge that he is more interested in the exaction of a large fee than he is in treating his patient with all fairness. When extensive studies of a patient (involving x-ray examinations, laboratory tests and examinations by several specialists) have to be made, the physician who conducts, and is responsible for, the study should see to it (1) that, according to his best judgment, no unnecessary expense shall be incurred and (2) that the total cost to the patient shall not be disproportionate to his economic status and especially that it may be no real financial hardship to him.

So-called "fee-splitting" or secret division of fees, as well as payment of commissions for patients referred by other doctors are practices that are disgraceful and dishonorable to the profession. Though I have never known actually of such occurrences, I am told that they are met with and that this accounts for the strictness of the codes of medical ethics that have been formulated.

Doctors are notoriously bad business men and are often negligent in the rendering of bills and in the collection of fees. This is unfair to themselves and to their families. Bills should be sent regularly, and if they remain unpaid the reason for this should be sought. Though, with good-will on both sides, the financial arrangements between



doctors and patients can usually be arranged to the satisfaction of both, there will nearly always be a small residuum of instances in which the practitioners in fairness to himself may have to make use of a "collecting agency" or resort to suit in court (very distasteful to every physician and to be avoided except as a last resort when dealing with blameworthy recalcitrant debtors).

*Practising Physicians and the Prevention of Disease.*—Medical men in private practice are ever more keenly appreciative of their duty and privilege to participate in the prevention of disease and in increasing the vitality of the people that they serve. Doctors prefer to keep people well rather than merely to treat them after they become ill; though they are paid for both forms of services, they rejoice when the market for preventive and preservative services is more active than that for curative services. More and more laymen have become aware of the fact that it is wise for them to have the family doctor see, at regular intervals, each member of the family while apparently well and have him direct the mode of life in the way best calculated to maintain both physical and psychical normality.

This preventive work has led to possibilities greatly increased in our time, thanks to the vast amount of research that has been done and that has thrown light upon the etiology and pathogenesis of various disease-processes. Investigators of heredity have shown to us its enormous significance for human health and happiness and, through applications of the science of eugenics, medical practitioners are better able than ever before to encourage marriages and childbearing among the "fit" and to discourage marriage and parenthood among the "unfit." And students of environment have provided the data that form the basis for our newer rules of personal hygiene for all the periods

of human life—infantile, adolescent, adult, senescent; the physical, psychical and social factors that impinge upon the human beings that come into existence, can be of very great importance for either the production, or the prevention, of disease.

Though public health officials are responsible for mass protection through control of water-supplies, of the disposal of sewage, of the inspection of foods and the like and through measures designed to prevent the spread of infectious diseases, it is the private practitioner who is responsible for the hygiene of single persons. The doctor in practice who is negligent of the responsibility must, now-a-days, be regarded as ethically faulty. It is highly desirable that family practitioners shall educate their clientele to coöperate in the application of the simple measures that go so far toward preserving personal health and happiness. A wise layman who is made cognizant of the possibilities will gladly defray the medical expense incurred for he will know that in time he will have been saved a much greater financial outlay. The time may come when families of all income levels may be able to make arrangements that will give them both preventive and curative care without financial hardship. The Committee on the Costs of Medical Care has suggested possible methods for this and even better plans than those that they have proposed may, in time, be forthcoming. In any case, it would seem tolerably certain that during the decades just ahead of us, the conditions of medical practice will undergo some striking changes. We can feel sure, I believe, that the medical profession will stand ready to participate in whatever plans seem best for the people at large, and, of course, such plans must provide for the adequate maintenance of a competent medical profession as well as for benefiting the public.

---

## ANEURYSM OF THE SPLENIC ARTERY WITH FATAL HEMORRHAGE

GEORGE L. LE FEVRE, M.D., F.A.C.S., and E. M. PETTIS, B.S., M.D.†  
MUSKEGON, MICHIGAN

The subject of Aneurysm of the Splenic Artery presents itself as a distinct and outstanding entity in the realm of medicine. Textbooks of medicine and pathology fail to give it any mention or discussion. The reason for such is undoubtedly due to the rarity and intangibility of the subject. The symptoms and signs are such that the condition is rarely diagnosed or discovered except at autopsy.

### Case History

This patient was suddenly taken sick at four-thirty on the morning of admission. The illness began with severe pain in the epigastrium below the sternum. There was no vomiting, no diarrhea, but the patient had been constipated for the past two days. The pain appeared in the epigastrium but did not radiate to the back, down the legs or into the shoulders. He was entirely conscious and was admitted to the hospital at noon.

*Personal History.*—He was fifty-eight years of age and had been married for twenty-six years but his wife had died six months previously. He had devoted his entire life to the managing of a grocery store and was a Protestant by faith. He was not in the habit of using alcohol in excess. Up to about three years previous to the present illness, he had always been healthy, at which time he noticed a tumor mass in the abdomen which was diagnosed as an enlarged spleen. This had remained about the same size continuously. There was no history of jaundice, the stools were normal, but he had frequent attacks of pain in the splenic region. At this same time his blood pressure was found to have been high and he was examined at monthly intervals for both the spleen and the blood pressure. He had never complained of headaches or dizziness but had noticed some recent visual difficulties. He was subject to attacks of dyspnea and considerable dry coughing associated with a filling of the throat interfering with speech at times. He had had frequent nose bleeds for the past several years which appeared suddenly. His appetite had always been good and he was not subject to nausea or vomiting. The eating of fried foods was usually accompanied by gas formation and much belching. There was no history of genito-urinary symptoms.

*Physical Examination.*—On admission he had a temperature of 101.8 by rectum, a pulse of 76, respirations 16, blood pressure 108/52 and a weight of 190 pounds. He was well-nourished but appeared acutely ill, delirious at times and conscious only at intervals. His skin was pale, as were the mucous membranes. The pupils were equal and reacted to light. There was no evidence of jaundice in the sclera. The ear and nose examinations were negative. The tongue was moderately coated but, aside from the paleness of the mucous membranes, the throat and mouth were negative. No palpable glands were found in the neck. The breath sounds appeared normal, the expansion of the chest was equal on both sides and there were no râles. Percussion was normal. The apex beat was one finger medial to the nipple line. The rate appeared quite normal and the rhythm regular. No aortic pulsation was seen but there was an accentuation of the aortic second

sound. No murmurs were heard, no Corrigan pulse and no pistol-shot femorals. His abdomen was obese and showed no operative scars. He had been wearing a bilateral truss. The patient was relaxed and showed no muscular rigidity. Medially, the liver was palpable one to two fingers below the costal margin. There was a palpable mass approximately the size of a lemon in the left upper quadrant three fingers from the umbilicus which pulsated and had a systolic thrill. This mass was movable and moderately tender. The spleen was greatly enlarged along the left costal margin and firm in consistency. There were bilateral direct inguinal hernias but no bulging. The knee jerks were present and equal and no evidence of varicosities.

*Impression.*—1. Aneurysm of abdominal aorta. 2. Splenomegaly. 3. Bilateral direct inguinal hernia.

*Laboratory Examinations.*—No urine was obtained. The blood showed a hemoglobin of 65 per cent, 3,540,000 red cells and 6,600 white cells. The differential showed 15 per cent small lymphocytes, 2 per cent large lymphocytes, 82 per cent polymorphonuclear neutrophils and 1 per cent basophiles. The spinal fluid was clear and showed one cell per cubic millimeter. The Globulin, Kahn, and Gold Curve tests all gave negative findings. An x-ray of the chest showed an enlargement of the heart, clear lung fields and normal diaphragm shadows.

*Progress.*—About three-thirty in the afternoon, the patient appeared to be in shock, which condition arose shortly following the spinal puncture. He developed Cheyne-Stokes respirations, talked incoherently and there was difficulty in ascertaining the cardiac and radial pulse. During the evening, he became rather irrational, complaining of severe pain in the epigastrium, belched a great deal and developed a labored respiration. His temperature was 101 rectally, respirations 36 and pulse 108. He was given cardiac stimulants, spirits of ammonia, caffeine sodium benzoate, adrenalin and whiskey. During the night, the respirations became more labored, the pulse weaker and more irregular and he died at six o'clock the following morning.

*Post Mortem Findings—Partial Autopsy:*

*Body* is that of a well developed, obese white male. Post mortem rigidity not present. Orifices not discharging. Abdominal cavity is filled with free blood. Peritoneum normal and shiny.

*Mesentery* filled with hemorrhagic infiltration.

*Stomach* normal size and shape. Layers infiltrated with blood.

*Intestines* normal color, appearance and consistency.

*Bladder* partially filled with straw colored urine.

*Prostate* is firm and normal size.

*Liver* is increased in size, especially the medial portion. Increased portal connective tissue.

*Stroma* congested.

*Gall bladder* was normal in shape and size. No lithiasis. Filled with normal bile.

†Dr. LeFevre is past president of the Michigan State Medical Society. Dr. Pettis is a graduate of Marquette University.



*Kidneys:* Right kidney is enlarged and congested. Cysts present. Capsule strips with difficulty.

Left kidney enlarged and congested. Capsule strips with difficulty.

*Spleen:* Greatly enlarged. Increased in size and weight. Twelve inches by seven inches in width. Congested. Areas of infection.

*Splenic Artery:* Aneurysm present which has ruptured with hemorrhage into the surrounding tissues and abdominal cavity. Patches of calcification present. Splenic vein, greatly enlarged.

*Aorta:* Patches of calcification present throughout. No aneurysm present.

*Pancreas:* Increased in size. Increased fibrous tissue present.

*Lungs:* Normal crepitation throughout. Adhesions present to right pleural sack. No congestions or consolidation. No thrombi.

*Heart:* No marked enlargement. Pericardium shiny. Normal amount of pericardial fluid. Myocardium thickened especially in left ventricle. No vegetations or insufficiency of any of the valves. Normal size.

*Diaphragm:* Infiltration of blood between layers of the muscle.

*Primary Cause of Death:* Rupture of aneurysm of splenic artery.

*Secondary Cause of Death:*

1. Sclerosis and calcification of splenic artery and abdominal aorta.

2. Chronic passive congestion.

3. Splenomegaly.

4. Arteriosclerosis.

*Anatomical Findings:*

1. Ruptured aneurysm of splenic artery.

2. Splenomegaly.

3. Portal cirrhosis of the liver.

4. Renal arteriosclerosis.

5. Sclerosis and calcification of splenic artery and abdominal aorta.

6. Mesenteric hemorrhagic infiltration.

7. Hemorrhagic infiltration into wall of stomach, pancreas, spleen, and diaphragm.

8. Bilateral inguinal hernia direct.

9. Fibrosis of the pancreas.

## Microscopic Report

*Aorta:* Atherosclerosis and also a well marked medial calcification.

*Liver:* Atrophy. Chronic passive congestion. Increased connective tissue in the portal canals. A long standing strophic cirrhosis of moderate degree, not recently progressive. Fat stain shows a moderate degenerative fatty infiltration.

*Pancreas:* Fatty atrophy. Increased stroma. Some of the islands show a well marked hyaline fibrosis. This patient was a potential, if not actual, diabetic. The portion of the pancreas in the wall of the aneurysmal dilatation shows a further fibrosis and marked pressure atrophy.

*Kidneys:* Cloudy swelling. Passive congestion. Retention cyst. Early arteriosclerotic nephropathy. No lipoidosis in the convoluted tubules, but in the loops of Henle there is a well marked degenerative fatty infiltration.

*Spleen:* Atrophy. Chronic passive congestion. Small areas of a recent hemorrhagic infarction.

*Splenic Artery:* Aneurysmal dilatation. Sclerosis and calcification of media. Hemorrhage into surrounding tissues.

*Summary:* Diabetes (?). Hyaline fibrosis of Islands of Langerhans. Sclerosis and medial calcification in aorta and splenic artery. Aneurysmal dilatation of splenic artery with surrounding areas of hemorrhage and multiple areas of infarction in spleen. Early nephropathia arteriosclerotica. Atrophic

cirrhosis. Atrophy, passive congestion and parenchymatous degeneration of all organs examined.

## Discussion

Although the formation of an aneurysm at the splenic artery certainly occurs more frequently than at the arteries of the other viscera, no comprehensive work on this subject is contained in the literature. Fatal hemorrhages are rare in aneurysm of the splenic artery, according to reports found in the literature. Two observations are briefly mentioned in this connection: Weigert describes as co-incidental postmortem findings an aneurysm with rupture into the splenic vein in a woman forty-nine years old. Winckler extirpated a spleen together with aneurysm in a nurse, twenty-five years old, who had suffered for six years from severe attacks of pain. Ponfick then found no less than three aneurysmal sacs at the splenic artery during anatomical examination of the specimen.

This case presents many interesting angles to the study of diagnosis and pathology. On the day of entrance to the hospital, a tentative diagnosis of aneurysm of the abdominal aorta was made on the findings of a palpable pulsating mass in the epigastrium. This mass had a systolic thrill but the patient did not have the typical pain in the back and legs. Cabot points out that in true abdominal aortic aneurysm, the tumor mass is seldom in the median line and it often appears just beneath the skin of the abdominal wall, seemingly separated from our finger-tips only by the thickness of blotting-paper.

This patient was diagnosed as having splenomegaly three years previous to death. The splenomegaly caused no symptoms except frequent attacks of pain. Simultaneously with the findings of splenomegaly was the finding of a hypertension which was undoubtedly the cause of the atherosclerosis. The hypertension was quite variable and gradually progressed from a primary benign hypertension to an early malignant hypertension. The microscopic pathological findings of all the organs, especially the kidneys, prove this statement conclusively in addition to the visual, respiratory and circulatory symptoms.

The explanation of the enlarged spleen is due to the aneurysm of the splenic artery and not to any organic disease. Syphilis

is ruled out by the negative spinal fluid examination and the repeated negative blood Wassermann tests. The microscopic pathology does not show any characteristic organic disease findings but shows an atrophy of the spleen with a chronic passive congestion. From these findings, a conclusion can be made that the aneurysm preceded the splenomegaly in formation. The aneurysmal sac was formed within a very firm capsule which prevented it from rupturing into the free abdominal cavity. The pressure of the aneurysmal sac upon the splenic vein prevented the regular outflow of blood. The splenic tumor which became gradually larger formed as a result of stasis resulting in atrophy and chronic passive congestion. On account of the congestive blood stream the perforation into the free abdominal cavity finally occurred at the above formed thin site of the wall, resulting in fatal hemorrhage.

The initial sudden pain and shock on the day of entrance to the hospital was undoubtedly due to a further enlargement of the aneurysmal dilatation in the wall of the artery and possibly less considerable hemorrhage taking place into the surrounding tissues as the gross pathology showed a profuse infiltration of blood into the diaphragm and gastric musculature. This would not have been accomplished so markedly by a sudden profuse hemorrhage of a complete initial perforation.

The question of diabetes in this patient is one worthy of consideration. In the three years of periodic medical treatment preceding death, the patient did not present the clinical symptoms or signs of diabetes. The urine was repeatedly negative for sugar. The microscopic pathological findings are consequently of a potential diabetes in which the pancreatic pathology was due to a secondary resultant reaction from the pressure of the neighboring aneurysm and the progressive hypertension picture producing the pathology.

The pathological findings in the other organs are essentially those of an arteriosclerotic condition which results in atrophy and chronic passive congestion.

Binder<sup>3</sup> in 1913 reported a similar case and findings in a man forty-seven years old. Up to the thirtieth year in life, the patient had allegedly been entirely healthy. During that year the first attack of gout

(podagra) manifested itself. During the following years these attacks recurred on several occasions. At the age of forty, the patient alleges that he was confined to his bed for three months with peritonitis (?). About three months later severe attacks of pain in the splenic region manifested themselves. Later on, these colicky attacks again manifested themselves more frequently. Hematological examination did not reveal pathological transformation of the blood nor parasites of any kind. The spleen was clinically enlarged (percussion and palpation). After an interval of several months, severe pains accompanied by elevations of temperature, accelerated pulse, perspiration and sickly appearance, the splenic tumor became distinctly noticeable. A clinical diagnosis of infarct of the spleen, abscess of the spleen, and echinococcus were considered. The patient was admitted for operation but died very suddenly on the day prior to contemplated operation. Autopsy showed an aneurysm of the splenic artery with profuse hemorrhage. Since neither the anatomical findings nor the history indicated syphilis, the metabolic disease (gout) may be regarded as the cause of the relatively early atherosclerosis. The ordinary atherosclerotic processes frequently constitute the cause for the formation of aneurysm in the smaller arteries.

In the *Archives of Surgery* for August, 1931, Lower and Farrell, of Cleveland, present a case report and review of the literature. In this article, they state that in cases exhibiting paroxysmal attacks in the upper portion of the abdomen accompanied by gastro-intestinal hemorrhages, with the addition of a tumor in the epigastrium, and in which x-ray examination fails to show any organic lesion of the stomach, the possibility of a splenic aneurysm should be considered. In view of the pancreatic involvement in two cases of splenic aneurysm, examination of the stools for undigested fat should be made in order to determine whether a pancreatic deficiency exists. A study of the enzymatic strength of the urine would also be helpful, since in diseases of the pancreas an increased amylase content is not infrequently found in the urine. Wherever an abdominal tumor exists, stethoscopic examination should be made as a routine in order to determine the presence of a bruit.



A case these authors describe was that of a boy of sixteen admitted to the Cleveland Clinic complaining of severe abdominal pains. Eight years before admission, he had had a pain in the mid-epigastrium following an attack of whooping cough. The paroxysms of pain bore no relationship to the taking of food.

In the British Medical Journal for 1929, an article by Anderson and Gray describes a case report of aneurysm of the splenic artery and refers to fifty cases collected from the literature. The case reported was a woman aged forty-nine who died in collapse following an agonizing abdominal pain. At autopsy a saccular aneurysm of the splenic artery with an opening into the left lesser peritoneal cavity was disclosed. The aneurysm was false, for in the sac, which was the size of a cherry, there was 1.5 inch opening from the main splenic artery close to the hilus of the spleen. Microscopic study showed that the chief causes of the aneurysm were degeneration and necrosis in the media. There was no evidence of atheroma, generalized arterial disease or syphilis, but the findings suggested that the underlying condition was a subacute infection.

In fifty cases from the literature, the symptoms varied from those suggesting peptic ulcer or carcinoma of the stomach to that of ruptured tubal pregnancy. In the majority, indication of an acute abdominal condition with hemorrhage was present. Surgery is the only hope for cure.

In the Lyon Chirurgical of Lyons, Bertrand and Clavel, in September, 1929, described a study of twenty-seven cases in the

literature. As a rule, the aneurysm ruptures into the abdominal cavity, and in thirteen of the cases of this series, this occurred. In six other patients, the rupture occurred directly into the stomach and in four into the colon. Twice it occurred simultaneously into the stomach and colon, and twice into the stomach and abdominal cavity.

In one case, the rupture occurred into the splenic vein. The spleen was enlarged in twelve cases, the ruptures were of varied configuration and their evolutive character was outstanding. The etiology was obscure, but the occurrence of a rupture may be favored by weakness of the surrounding tissue due either to ulceration or to other destructive processes. Early diagnosis is difficult but exploratory laparotomy should be done in cases of internal hemorrhage.

Garland<sup>5</sup> of Boston states in 1921 that more than 4,100 autopsies have been held at the Massachusetts General Hospital and only three cases of aneurysm of the splenic artery have been found. Dr. Garland has come across the mention of seventeen cases in the medical literature.

### Bibliography

1. Anderson and Gray: British Med. Jour., 1929.
2. Bertrand, Pierre, and Clavel, C. H.: The rupture of an aneurysm of the splenic artery. Lyon Chir., 26:641-672, 1929.
3. Binder: Aneurysm of the splenic artery with fatal hemorrhage. Verhandlungen der Deutschen Pathologischen Gesellschaft, 16:225, 1913.
4. Cabot: Differential Diagnosis, Second edition, page 142.
5. Garland, J.: Aneurysm of the splenic artery, rupturing simultaneously with paracentesis abdominis. Boston Med. and Surg. Jour., 184:385, 1921.
6. Lower and Farrell: Arch. Surg., (August) 1931.
7. Marshall, C. J.: Traumatic aneurysm of splenic artery—rupture—ligature. British Jour. Surg., 9:570, 1922.

### RECENT PROGRESS IN TREATMENT OF PLUMBISM

According to Irving Gray, Brooklyn, the administration of a diet low in calcium and the addition of either ammonium chloride or phosphoric acid definitely causes an increased excretion of lead. The addition of diet high in phosphorus aids in the excretion of the lead. In several cases of chronic plumbism the lead in both the urine and feces was increased in amount after phosphate therapy was instituted. Experimental and practical experience bears out Shelling's opinion. The addition of a high phosphorus, high calory diet with sufficient vitamin content improved the general appearance; the nutritional requirements were adequate and the rate of excretion of lead was maintained. In the "deleading" treatment of his patients the author is now using the low calcium, high phosphorus diet with a ratio of 1-3 and 1-4. In persons who have absorbed lead it is possible that waves of liberation occur

from time to time and produce symptoms of clinical activity. The lead that has been absorbed and is released at certain periods can be much more rapidly excreted at stated intervals with this type of treatment. Although complete "deleading" is not possible, as demonstrated experimentally, nevertheless it is reasonable to assume that the lead excreted is a large fraction of the lead that has been absorbed. The "deleading" treatment may have to be repeated at intervals if there is evidence of continued excretion of abnormal amounts of lead. It is advisable that all patients undergoing "deleading" treatment be hospitalized. The failure of acute toxic symptoms to develop when there is increased lead excretion is further proof of the fact that there is no parallel between the absorption and excretion of lead and the toxic manifestations. The estimation of lead in the excreta is of aid only in proving whether or not abnormal amounts of lead have been absorbed.—*Journal A. M. A.*, Jan. 19, 1935.

## PHYSICIANS AS DRAMATISTS\*

GAYLORD S. BATES, M.D.†  
DETROIT, MICHIGAN

"Knowledge of Nature," said Samuel Johnson, "is only half the task of the poet; he must be acquainted likewise with all the modes of life. His character requires that he estimate the happiness and misery of every condition and trace the changes of the human mind as they are modified by various institutions and accidental influences of climate or custom, from the sprightliness of infancy to the despondence of decrepitude; moreover, he must know many languages and many sciences."

Do not most physicians, by this measure, qualify as poets? Or, in the broader sense, as men of letters, for poets, novelists and dramatists are close of kin. The physician, by the peculiarities of his training and profession, must acquaint himself with the emotional world in which his patient lives; he must gauge the influences which incite anger, animosity, give joy, or cause pain and misery. If he can only elicit physical signs, he is a diagnostician, not a doctor. In like manner, a novelist must study life. He deals with personalities, their emotional and psychological components, and must ever observe people in order to discover and explain new modes of action. A writer who sets down only facts and draws conclusions therefrom is merely an historian, not a novelist.

Is it any wonder physicians are avid readers of good literature since the novelist has recorded and analyzed many psychological and emotional problems for him? The wonder is more physicians do not write. An abundance of material supplying characters, situations and action is present in every physician's experience. His relations with patients have involved questions by nature, psychological, philosophical, moral and religious, the stuff of which literature is made. One even wonders if the physician has not the opportunity to introduce a new point of view in literature. Hitherto, novelists have tended to ascribe most human conflicts to infractions of the seventh commandment. Might it not be that more often the fundamental cause were peptic ulcer, hyperthyroidism or even fallen arches? Certain we are that physical

disability can produce profound mental and character changes. But physicians have written, and it is with pride we may note many colleagues among the great writers of all time. Robert Bridges, Tobias Smollett, Oliver Goldsmith, Sir Arthur Conan Doyle, Somerset Maugham, Schiller, Schnitzler, Chekhov, John Locke, Sir Thomas Browne, Keats, Erasmus, Darwin, Oliver Wendell Holmes come easily to mind, and there are many, many more.

Many of these literary artists wrote drama in addition to novels and poetry, a perfectly natural impulse. The technic is different, but the intent is the same, to portray life and to make something out of it. Many have written dramas that have been forgotten in time: Thomas Lodge, Matthew Gwine, Paul Hiffernan, Benjamin Hoadley, Frederick Wynne, George Sewell, James S. Knowles. Others are better known for novels, poems or essays: Tobias Smollett, Oliver Goldsmith, Robert Bridges. Still others have written dramas which bid fair to be for all time, and are equally immortal in literature of other types: Schnitzler, Schiller, Chekhov and Maugham. Some observations on the life and works of the better known of these may be of interest and profit. It will be interesting to discover, if we can, the physician in the dramatist. Does he influence the dramatist in his choice of material; is he a realist or a romanticist; does he make the dramatist view life objectively or does the author inject himself too much in his characters; does the dramatist reason through to a conclusion or does the physician in him fairly present all the facts and be chary of a positive solution to the problem?

Of Tobias Smollett you have recently heard much as a novelist, and the comment was made then that he wrote a drama "The

\*Read before the Medical History Group of Detroit, December 16, 1934.

†Dr. Bates received his M.D., Harvard Medical School, in 1928. He is Assistant Surgeon to Out-Patients, Harper Hospital; Voluntary Assistant to Out-Patients, Receiving Hospital; Associate Surgeon, North End Clinic; Member of Detroit Academy of Surgery, Detroit Medical History Club, Wayne County Medical Society, Michigan State Medical Society, and American Medical Association.



Regicide," which was pretty generally adjudged as bad.

Oliver Goldsmith, though better known for other writings, wrote two dramas, one of which is still a familiar title, "She Stoops to Conquer." That he was a physician is still open to question, and what knowledge he may have gained from his training is nowhere reflected in his authorship. He was uncharitably regarded in his youth as dull and stupid but easily managed. A trial at law and several at medicine resulted in failure. His family's hard-earned, ill-spaced money went right through his hands at the gaming tables and finally resulted in his setting out for the continent without leave. When he returned after a year of travel and adventure, he claimed to have a degree in medicine from the University of Louvain, but such a record has never been found. An attempt to practice promptly resulted in another failure. The last of him as a physician is to be found in the books of Surgeon's Hall, whence he had gone to apply for naval service. "James Bernard, mate to an hospital. Oliver Goldsmith found not qualified for ditto."

Johann Christoph Friedrich Schiller was born at Marbach in 1759, where his father was superintendent of the gardens and nurseries on the estates of Duke Karl of Württemberg. After Johann Schiller became a great figure in the world of letters, much significance came to be attached to his early environment. His father had seen a long career as an Army Surgeon, and with retirement became interested in the study of plants and trees, hence his position on the Duke's estate. He was a very ordinary man of no vision but very religious, of great integrity, and bound forever by the traditions of army discipline. His mother was a fine character but had no particular abilities. The boy grew up in this strict household with the intention of conforming to his parents' wishes that he become a cleric. He succeeded so well in school that the imperious Duke, in whose obligation his father was for his very livelihood, literally took the boy from his parents and kept him in his own Academy, which he personally conducted in the most strict military fashion. Young Schiller finally completed a medical course and was assigned by the Duke to one of his regiments as surgeon, a miserable position since it carried no rank and

paid next to nothing. His repugnance to the machinelike orderliness of the school and his disappointment in receiving such a subordinate commission bred in him the spirit of revolt. He had already written surreptitiously a play called "The Robbers" during his last year at the Academy, which indeed expressed his own reactions to the stifling, disciplined life he had lived. It is the story of the revolt of a powerful nature against the conventional reality which places its narrow barriers, called laws and custom, in his way on all sides. A great man, he believes, should be a law unto himself, for society is at fault. This is plainly Rousseau, adapted to his own individual problem. The play was given at Mannheim, Schiller attending without official leave from his post. Both the import of the play and his own breach of discipline were reported to the Duke, who forbade him henceforth to write anything but medical treatises. This despotism was too much for Schiller, so he took the only way out, desertion and flight into another province. "The Robbers" was not well written, it is true, but it manifested great power and, as the production of a youth of twenty-one, was a notable performance.

Schiller was hopelessly in debt and without funds but, fortunately, found a patroness in Frau von Wolzogen, who hid him on her estate at Bauerbach. Here he brought out two plays, "Fiesco" and "Love and Intrigue," both of which won immediate acclaim, and here he pursued his studies, looking toward the writing of an historical drama, "Don Carlos." Embarrassments and discontent caused him to move on to Dresden, but on the way he obtained recognition from the Duke of Weimar for his "Don Carlos." This led to his writing "The History of the Revolt of the Netherlands." Either this latter work or his newly acquired friendship with Goethe won for him the professorship of History at Jena.

The next dramatic work appeared ten years later, the trilogy "Wallenstein," which is, if we except the First Part of Faust, the greatest tragedy written in the German language. He wrote it in three distinct parts, in verse, attempting to dramatize the form and pressure of the 30 years War at one of its most exciting moments. It was the first of historical tragedies and had no precedent. Schiller wrote not ob-

jectively but as a part of the thing he wrote. There is no relief from the all pervading seriousness of the work, the use of humor in a grave drama being repugnant to his sense of style. The success of this drama induced in Schiller such satisfaction of accomplishment that he gave the four remaining years of his life to writing historical drama. "Mary Stuart," "Maid of Orleans," "Bride of Messina" and "Wilhelm Tell," though of perhaps less artistic worth were much more popular with the German people.

It is fair to state that Schiller was not a great world poet. He was a German of the Germans, articulating their ideals and aspirations. His hatred of and revolt against tyranny remains his outstanding characteristic. He was dreamy and imaginative, a poet born, influenced by his mother's religious zeal and fired by the oppression which his keen intellect suffered at the Duke's Academy. His training as a physician was of passing moment and left no impression upon him as a poet.

The golden age of Russian literature, the 19th Century, mirrors seven great figures, Gogol, Turgenev, Dostoevski, Tolstoi, Gorki, Andreu and the physician Chekhov. Though not the greatest of this group, Anton Chekhov nevertheless holds high rank, particularly in the field of drama, his name being linked inseparably to the Moscow Art Theatre and the modern drama. But let us read a portion of his letter to Rossolimo—"My autobiography? I suffer from a disease: autobiographophobia. To read any particulars about myself, and, worse still, to write them for publication, is a real torment to me. On a separate sheet I send you a few facts, very bald ones, and I can do no more." On a "separate sheet" we find—"I, A. Chekhov, was born Jan. 17, 1860, in Taganrog. I studied first at the Greek School near the church of King Constantine, then at the Taganrog grammar school. In 1879, I entered Moscow University, the Faculty of Medicine. I had then but a vague idea about the faculties generally, and I do not remember for what reason I chose the Medical Faculty, but I did not regret my choice afterwards. While still in my first year I began to publish in the weeklies and dailies, and these pursuits early in the 80's assumed a permanent professional character. In 1888, I was award-

ed the Pushkin prize. In 1890 I went to Saghalien in order to write a book on our convict settlement there. Not counting law reports, reviews, feuilletons, notices, and everything that I wrote from day to day for the newspapers which it would be difficult now to find and collect, during the twenty years of my literary work I have written and published over three hundred printed folios, including stories and novels. I have also written plays for the theatre."

Behind these "few facts, very bald ones" are more facts, very hypertrichotic. Anton's early life was very severely disciplined to long hours of hard work in his father's shop, in spite of which the boy had a reputation as being very mischievous and an excellent story teller. In Moscow, he not only pursued his medical studies but also supported his father, mother, sister, aunt and younger brother, by his unbelievably numerous contributions to current humorous publications. After obtaining his degree, he bought a farm for his family and entered into medical practice. His life thenceforth resolved itself into farming, writing, doctoring the peasants free of charge, and building schools for them at his own expense. We read of him organizing famine relief for his province, now setting off to battle the cholera epidemic almost single-handed, and again, taking the census of his district. The last third of his life he was also fighting an active tuberculosis of the lungs, which ultimately caused his death at the age of forty-four. A rather active though short career for a consumptive, yet how characteristic of the physician.

Chekhov's greatness as a writer lay in the simple beauty of his style and in the accuracy with which he recorded events. He was able to write of commonplace people and their commonplace doings and yet make one feel that life was more than that. Gerhardt says, "His is the art of creating convincing illusions of the life that is." "Let me remind you," Chekhov wrote, "that the writers who, we say, are for all time, or are simply good, and who intoxicate us, have one common and very important characteristic; they are all going towards something and are summoning you towards it too, and you feel, not with your mind but with your whole being, that they have some object. The best of them are realistic and paint life as it is; but, through every line being soak-



ed in the consciousness of an object, you feel, besides life as it is, the life which ought to be, and that captivates you." Chekhov many times toyed with the drama, but, failing each time to win, vowed never again to be so humiliated. However, he, as a dramatist, and the Moscow Art Theatre came into being at the same time. Without Chekhov the Moscow Art Theatre would never have been, and without the Moscow Art Theatre, Chekhov would never have been a dramatist. Chekhov's dramas were in a style new to the Russians and needed a new theatre unbound by tradition to produce the effect he wished. His last five years were triumphant for the theatre and himself with the production in succession of "The Seagull," "Uncle Vanya," "The Three Sisters," and "The Cherry Orchard."

Chekhov believed in objectiveness as the prime consideration of a playwright, with utmost simplicity in manner and style. He tried to dramatize the seemingly threadbare facts of everyday existence without recourse to grandiose themes and startling effects. Nowhere will you find the psychological or the pathological horrors of the naturalist. Withal he stopped short of caricature. As he wrote to Souvorin, "The artist should be not the judge of his characters and their conversations, but only an unbiased witness. My business is merely to be able to distinguish between important and unimportant statements, to be able to illuminate the characters and speak their language." In that statement Chekhov the physician speaks for Chekhov the artist.

Chekhov lived in and wrote of the Decadent Russia whose people were helpless, ignorant peasants; intellectuals, bored with their learning and lacking imagination; or middle class shopkeepers, school teachers and physicians. A pathetic few idealists dared hope for a far off day when a new world would come upon them. Chekhov wrote of the middle class, the gloomy hopeless atmosphere in which they lived, their suffering, more mental than material, their longing for better things, how they despised work, and finally how they succumbed to defeat through circumstances and their own weakness. Often, as in "The Three Sisters," the sadness is illuminated by a suggestion of the need of faith and work. The worldly wise Vershinin has hope in ultimate progress to encourage him, but the

Baron seems to forecast Soviet rule when he says, "Something formidable is threatening us; a strong cleansing storm is gathering; it will soon sweep our world clean of laziness, indifference, prejudice against work, and wretched boredom. I shall soon work, and within twenty-five to thirty years everyone will work—every one." Ironically enough, Chekhov's characters who work the hardest continue unhappy, for he realized that happiness requires something more.

Chekhov, then, was a pioneer in realism. Whereas his predecessors of the realistic school made the details of their stories characteristic of real life, they overlooked making the plot characteristic of real life; so much so that Mr. Bennett once confessed "as far as the story was concerned, the odds were against any novel happening in real life." Chekhov made his plots characteristic of real life by choosing for his themes stories which were not of the unlikely kind. Thus the odds were for, not against, Chekhov's stories happening in real life.

The influence of his professional training in Medicine, and his experience as a practicing physician, upon his literary endeavors was profound. We are pleased to read in his letter to Souvorin, the Lord Northcliffe of Russia, "... I have two professions, not one. Medicine is my lawful wife, and literature my mistress." That he recognized this influence, and valued it highly, is evident from his letter to Rossolimo, which contained his "autobiography." "I have no doubt that the study of the medical sciences has had an important influence on my literary work; they have considerably widened my range of observations, and enriched me with knowledge, the true value of which to me, as a writer, could be understood only by one who is himself a doctor. They also have had a directing influence and, thanks probably to my knowledge of medicine, I have managed to avoid many mistakes. My acquaintance with the natural sciences and with the scientific method has always kept me on my guard, and I have tried, wherever possible, to take the scientific data into consideration; and where this is impossible, I have preferred not to write at all. I will note in passing that the conditions of artistic creation do not always admit of complete agreement with scientific data; it is

impossible to represent on the stage a death from poisoning as it occurs in reality. But agreement with the facts of science should be felt even in that convention, that is, it must be clear to the reader or spectator that it is only a convention, and that he has to deal with a writer who is well informed. I do not belong to those fiction writers who take a negative attitude toward science; nor would I belong to the order of those who arrive at everything by their wits."

With Arthur Schnitzler's life, we are not so well acquainted except as his novels and dramas reveal him. He was very reticent and never gave interviews. Until the publication of his diaries and autobiography sometime hence, his present published works will have to tell of the man. When asked for complete biographical data, he submitted the following, "I was born in 1862 and was a physician." He was born into a well-to-do home of a famous Viennese laryngologist, Professor Johann Schnitzler. His father counted among his patients many dramatic and operatic stars, which may or may not have had something to do with the boy's early attempts at the writing of plays. The Schnitzlers were of Jewish stock and, in company with many of their fellows of that day, knew the trials and tribulations of the strong anti-Semitic feeling in Vienna.

Arthur received the degree of Doctor of Medicine from the University of Vienna in 1885 and spent the next three years in Vienna hospitals before joining his father's clinic as an assistant. He did some traveling and studying in England and Germany, and wrote reviews for the *Wiene Medizinische Presse*, a journal founded by his father in 1860. In 1887 he became editor of the *Internationale Klinische Rundschau*, a position he retained till 1894. The articles which he wrote for the latter journal dealt mainly with hypnotism, neurasthenia, telepathy and psychotherapy, subjects in which he had become deeply interested. He was an admirer of Freud, and Freud stated that Schnitzler's poetic intuition led to some of the same discoveries as his own researches.

Schnitzler's first non-professional writing appeared at the close of the 80's in Viennese periodicals in the form of poems and tales. These were collected and published in 1884 as playlets, called "Anatol," his own pseudonym and the name chosen for

his chief character. In 1894 his first full length play, "Das Märchen," was presented and proved a failure, but was soon compensated for by "Liebele." Thenceforth Schnitzler applied himself almost entirely to writing dramas and narratives in rapid succession.

If we take the characters of whom Schnitzler was most fond and look upon them as mirroring himself, we find him wanting to live yet ever conscious of death. The world he created is not unlike that of phantasy in which the frivolities of youth and love are indulged and responsibility taken lightly, yet ever in the background is death which will soon put an end to these transitory pleasures. Possibly Schnitzler's melancholy temperament, his sense of moral responsibility and position as a respectable upper class Jew made him desire this world of adventure and pleasure which was denied him. Yet, we find him idealistic and frankly skeptical of this fantastic existence. His dramas are for the most part concerned primarily with the aforementioned conventional theme, infractions of the seventh commandment. They are studies in psychology, and should be both interesting and profitable to the physician.

Schnitzler's first work, "Anatol," presents a frivolous and irresponsible Anatol; his cynical, skeptical friend Max; and a series of seven women, with each of whom Anatol has an affair. These characters are important for they recur again and again in Schnitzler's dramas under different names and circumstances, but representing these two attitudes toward life. They seem to represent a dualism in Schnitzler's own makeup: Anatol—the wishes, dreams, longings of the poet; and Max—the sane, responsible, skeptical scientist. At first, these two types are concerned with women. In Anatol, women are treated as frivolous creatures; as seen through the eyes of the philanderer, they are merely a source of pleasure, to be loved and caressed and soon forgotten. As occurs many times, the same may be presented from another point of view, in a succeeding drama. So, in "Liebele," the game of love is looked at through the eyes of woman and we see that what in Anatol was merely an adventuresome flirtation for the man, may sometimes have serious consequences for the woman. This attitude of Schnitzler's is quite characteris-



tic. He is very careful of generalizations and does not want his readers to feel that what is right in one instance may be right the next time in a similar set of circumstances. To prove it, he wrote a narrative about a professor's wife, twenty years his junior, who becomes infatuated with a student. The professor sees them in a compromising situation and the youth knows they have been discovered, but the professor never indicates to his wife that he knows of her unfaithfulness. This shames the youth into flight. A play followed in which a professor, married to a woman twenty years his junior, finds that she is having an affair with his assistant. He appreciates that they are the same age and that they probably rightly belong together. He says nothing, hoping they will come to ask for her release, but they never come. After her death he learns of two things: his assistant had been wooing his fiancée for the past two years, and his wife, though knowing of the coming engagement, had voluntarily continued her affair. Thus in the first instance the professor was wise, in the second his counterpart played the fool. Schnitzler believed there is no cure-all for human ills. What may be one man's medicine is another's poison. His remedies apply only to the individuals examined, and only under a given set of circumstances. Here is the physician behind the poet.

In his more mature years Schnitzler turned to the problems of marriage. His husbands are a tolerant lot; being of a mature age and experience, they can forgive, forget and understand. The question comes up, would marriage have more stability and happiness if husband and wife, assured of mutual understanding and confidence, were to confess to each other every extra-marital desire? The dramatist physician answers, "Not necessarily." In two plays, "Die Frau Mit Dem Dolche" and "Zwischenspiel," the partners in marriage agree to tell each other of all of their temptations. In the former, the wife ultimately yields to a seducer; and in the latter, the constant revelations produced the unhappy state they hoped to avoid, that is, suspicion, jealousy, lack of affection. This play, "Zwischenspiel," projects quite accurately the so-called modern marriage, and discloses the pitfalls which one may expect to encounter. One realizes that the marriage based on pure friendship

with avoidance of responsibilities is no guarantee of control of the emotions, and that no individual can be sure of himself or of another. Human nature is just that way. After Schnitzler sets out on a quest for new morals in marriage, we find he returns empty-handed. Our present system is inadequate but there is no better. Of certain safeguards, there are none, but that should not keep us from trying to find some.

In succession, several themes came to be treated: Who has the greater claim on a son, the father who merely gave him life or the foster father who reared him as his own? Has the physician the right to kill a patient, incurably ill, to relieve the latter's suffering? Should a wife be always faithful to her husband? All these questions must be answered by, "Perhaps," or "Not necessarily." In other words, Schnitzler attempts to show that we have scarcely begun to know ourselves. We are within the grip of forces, both within and without, of which we know nothing and about which we can do little. Therefore, be slow to condemn.

As early as 1900 Schnitzler conceived the idea of writing a play about physicians, giving a cross section of the medical world. He had grown up among physicians and knew much about medical problems from his own practice. His literary work as a whole shows this influence in many ways: the cool scientific attitude with which he approached his problems, his use of hypnotic phenomena, and the use of the physician as advisor and healer to his characters. First he considered dramatizing the complications that might arise from a conflict between the scientific and religious attitudes toward the sick. The first draft in 1899, preserved among his manuscripts, reads, "A physician expels a priest who wishes to administer the last sacrament to a dying person, because this dying person imagines himself healthy and does not suspect that he is at death's door." This theme might be presented from either the physician's or the priest's viewpoint. The second draft, a year later, projects the patient as a girl who does not suspect that her death is imminent. She is of a religious family. The Jewish physician wishes her to receive the last rites. Her betrothed refuses to admit the priest. The girl catches sight of the priest. Having been persuaded she is on the road to recov-

ery, she is quite overcome and the fear of death overtakes her. You notice the conflict is now between the priest and the betrothed, the former wanting to save a sinner's soul, and the latter, his loved one needless suffering. The physician might be expected to favor the fiancée. So, to provide a neutral observer, the physician is made a Jew, who knows from experience that any interference on his part will be subject to misinterpretation; thus the priest is strengthened by indirection.

Three other plays occupied his attention now, making use of physicians and medical themes. By 1909 he was seeking anew a theme which would permit him to discuss problems of medical men. Being at this time much perturbed over the anti-Semitic question, he reverted to his original theme of 1899 and made the physician who expelled the priest a Jew. This act then would become a basis for unjustified anti-Jewish attacks. After much work it was finally published in 1912 as "Professor Bernhardt," and aroused both condemnation and approval.

The final version is unique in containing practically no reference to love or sex, and has only one female character, a nurse. A girl is dying of blood poisoning, and in her euphoria believes herself recovering. Just as Professor Bernhardt, director of the hospital, is leaving, he meets the priest whom the Catholic nurse has summoned to administer the last rites. The Professor believes it his duty as a physician not to upset the unsuspecting patient. He quietly asks the priest not to enter the room. The priest insists and a heated argument ensues, during which the well-meaning nurse has informed the girl that the priest is coming, so that contrary to Bernhardt's wishes death does not come to the patient while she is in her pleasant dreams. Bernhardt's actions are misinterpreted by his adversaries and the clerics intend to bring the incident before the government. The Professor wishes to avoid a scene and embarrassment to the Institute by offering a dignified explanation, but he is goaded into active defense. The climax is reached in a meeting of the professors of the Institute where many different types of physicians are represented, and speak. Bernhardt stands out by his quiet kindhearted manner, and he resigns rather than continue the friction among his

colleagues. However, he is tried and convicted of forcibly hindering a priest in the exercise of his religious duty and is condemned to two months imprisonment. Throughout all efforts in his behalf by well-meaning friends and political advisors, he refuses to appeal or obtain certain judicial vindication. He is a physician whose aim in life is to cure people in contrast to politicians whose aim is to conform to changing public opinion. Thus, albeit inadequately, we see the development of the greatest of medical dramas.

And now we come to W. Somerset Maugham, a most popular contemporary playwright, who has yet to prove his greatness. He was educated at Heidelberg and studied medicine at the wish of his parents, though he never intended to practice. He has an M.R.C.S. from St. Thomas Hospital. In 1899 he produced a realistic play "Liza of Lambeth," some of the material for which dates to his days on Obstetrics in the poorer districts of London. It was roundly denounced as being untrue and failed to become popular. A one act play produced in Germany in 1902 likewise failed. "Man of Honor" is described by—"no laughs, no money." Realizing that the public was in no mood for realism, Maugham frankly and intentionally set out to write farcical comedy. So well did he succeed at the box office that in 1908 he had the distinction of seeing four of his plays running in London simultaneously.

He is cynical, believes life is a little harsh, and people somewhat trivial, if we judge from his dramas. His critics refrain from calling him great. While recognizing that he is tremendously popular, they fail to see any great depth or originality in his work. He seems to write as one who has studied the stage, the actors, and the public, and has unerringly supplied the requirements of each without actually creating anything. Collins recommends reading his plays but "the thing to stipulate is that the reader must be modern-minded and the reverse of squeamish, especially about the seventh commandment."

### Bibliography

1. Boyesen: *Essays in German Literature*. Scribner's, 1892.
2. Chekhov, Anton: *Letters on the Short Story, Drama, et cetera*. Edited by Friedland, Minton, Balch and Co., 1924.
3. Collins, Joseph: *Taking the Literary Pulse*. Doran, 1924.



4. Dobson: *Life of Oliver Goldsmith*. Walter Scott, London, 1888.
5. Gerhardt: Anton Chekhov. Duffield, 1923.
6. Koteliensky: Anton Chekhov. Doran, 1927.
7. Koteliensky and Tomlinson: *The Life and Letters of Anton Chekhov*. Translated and edited. Doran, 1925.
8. Liptzin: Arthur Schnitzler. Prentice Hall, 1932.
9. Liptzin: *Genesis of Schnitzler's Professor Bernhardt*. *Philological Q.*, 10:348, (Oct.) 1931.
10. Maugham: *Current Literature*, 45:202, 1908; *The Bookman*, 57:12, 1919; *The New Statesman*, 15:524, 1920; *the Nation*, 113:356, 1921; *The Mentor*, p. 50, Dec. 1926.
11. Monro, Thomas Kirkpatrick: *The Physician as Man of Letters, Science and Action*. Monro, 1934.
12. Phelps: *Essays on Russian Novelists*. MacMillan and Co., 1916.
13. Thomas: Schiller. Holt, 1901.

## THE RHINOLOGICAL MANAGEMENT OF THE ALLERGIC INDIVIDUAL\*

JAMES E. CROUSHORE, M.D.,† and SAMUEL J. LEVIN, M.D.‡  
DETROIT, MICHIGAN

The rhinologist has been slow to accept the importance of allergy in many conditions of the respiratory tract, and especially the nose, because of two factors. First, the allergic background of the condition was not recognized, and secondly, when the allergic manifestations were recognized, methods of allergic diagnosis and subsequent treatment were inadequate or improper. The result was two dissatisfied individuals, the patient and the physician.

In order to obtain good results in these cases the rhinologist must acquaint himself with the signs and symptoms manifested in the allergic individual, and then equip himself and his office so that he may adequately treat the patient or work in close association with a competent allergist.

It appears that the nose and throat specialists have been somewhat lethargic in solving their problem in the old bugbear of sinus disease and other nasal conditions. The internist and pediatrician have been more alert and have through their investigations offered us a solution to many of our annoying problems. Some of these men have found the field of allergy so ramifying that they now limit their work solely to it and we speak of them as allergists.

The literature on allergy is extensive. The purpose of this paper is to bring to your attention some of the factors that are of importance to us as rhinologists. The

history, physical examination and treatment will be considered separately in detail.

### History

It has been estimated that about 1 to 2 per cent of the entire population of this country suffer from manifestations of nasal allergic disease. There are certain constitutional differences in the allergic individual, which allow him to become sensitized.<sup>1</sup> This constitutional susceptibility is hereditary in more than half of the cases. The specific hypersensitiveness is not inherited, but the ability to become sensitive is inherited.<sup>9</sup> The patient should be asked if any member of the immediate family or other relatives suffer from asthma, hay fever, urticaria, eczema, gastro-intestinal upsets associated with certain foods, migraine, etc. If there is an allergic background on both the maternal and paternal sides, then the offspring are more likely to become allergic and to a more severe degree.

A careful history of symptoms as related to time (perennial or seasonal), foods, environmental factors and acute infections must be noted.

Many patients who have allergic nasal reactions are led to believe that they are suffering from frequent recurring colds or chronic nasal infection, yet, interrogation proves the fact that the discharge is hardly ever purulent. It may be noted that these so-called colds vary in duration from sev-

\*From the Department of Ear, Nose and Throat and the Department of Allergy of the Detroit Polyclinic. Read before the Section on Otolaryngology, Michigan State Medical Society, 114th Annual Meeting, Battle Creek, September 13, 1934.

†Dr. James E. Croushore graduated from the University of Michigan Medical School in 1923. He interned at St. Francis Hospital, Pittsburgh, and returned to Ann Arbor in 1924, and remained on the Ear, Nose and Throat Staff at the University Hospital until 1928. He is now on the staff of Harper Hospital and is Otolaryngologist at the Detroit Polyclinic.

‡Dr. Samuel J. Levin graduated from the Medical School of the University of Toronto in 1923. He was Intern and Resident, Department of Pediatrics, University Hospital, Ann Arbor, 1923-1925; Pediatric Resident, Mount Sinai Hospital, New York, 1925-1926; Instructor Pediatrics, University of Michigan, 1926-27; and has been Instructor in Pediatrics, Wayne University Medical School since 1927. He is Associate Attending Pediatrician, Sub-Department of Allergy, Woman's Hospital, and a member of the Attending Staff of the Children's Hospital and North End Clinic, Detroit. Dr. Levin is a member of the American Academy of Pediatrics and American Association for the Study of Allergy.

eral hours to a few days. An attack of acute purulent rhinitis has a tendency to run a definite course and is accompanied by the usual constitutional symptoms. Although the attack begins as a vasomotor reaction, with sneezing, watery or mucoid discharge and nasal obstruction, there is a gradual change in the character of the secretions. It must be remembered that an acute purulent rhinitis may be superimposed upon an allergic rhinitis.<sup>3</sup>

The criteria for the diagnosis of an allergic condition are:

1. History of recurrent typical attacks.
2. A personal history of some other typical allergic disturbance.
3. A family history of allergy.
4. Eosinophilia, especially during attacks.
5. Eosinophiles in secretion from affected part: nasal, ocular, bronchial.
6. History of definite association of the attack with a food or other factors.
7. Positive tests for allergens.
8. Relief of symptoms by adrenalin.

Three groups of allergic cases come under the observation of the nose and throat specialists for the relief of nasal symptoms.

1. Frank seasonal hay-fever.
2. Seasonal and perennial hay fever with atypical symptoms and a pathological picture suggestive of chronic sinusitis which may or may not be accompanied by other allergic manifestations.
3. Sub-hay fever group: the perennially stuffy-nosed mouth breathers; subject to frequent head colds and potentially hay fever or asthma sufferers, but have as yet evidenced no frank manifestations of allergy (allergic rhinitis).

These patients when interviewed will offer one or more of the following symptoms.

*Ocular:* Itching or smarting of the lids, injection and edema of the conjunctiva, occasionally a dry granular, injected conjunctiva, injection of the sclera and lachrymation.

*Nasal:* Sneezing, particularly in the morning on arising, with a watery or clear mucus secretion, obstruction with resultant mouth breathing and in childhood the facial deformity resulting from this type of breathing.

*Pharyngeal and Oral:* Itching of the palate and ears, swelling of the uvula and soft

palate and extreme dryness of the throat.

*Laryngeal:* Cough, dry, hacking in character, hoarseness and not infrequent swelling of the glottis.

*Bronchial:* Cough which may or may not be productive of clear or muco-purulent material. Dyspnea, usually of the expiratory type, associated with wheezing, usually worse at night but which may occur at any time. The symptoms may be acute or chronic.

There are certain symptom-complexes which suggest that the individual is allergic.

1. Chronic rhinitis and "stuffy nose."
2. Chronic "sinusitis."
3. Nasal polyps.
4. Certain gastro-intestinal symptoms.
5. Migraine (40 per cent)
6. Epilepsy (about .1 per cent)
7. Follicular conjunctivitis
8. Chronic eczema (flexor surface type)
9. Chronic bronchitis without wheezing
10. Obscure skin manifestations.

### Examination

*Rhinoscopic examination:* There is a marked variation in the pathologic changes corresponding somewhat to the severity and frequency of the attacks and the duration of the disease. The changes in the mucous membrane are present in both sides of the nose and usually the degree of involvement is about the same. In early cases the membrane shows a pinkish-gray discoloration and is swollen or boggy. It usually pits on pressure. In the inactive stage, the membrane appears discolored but may show only moderate swelling. This mild degree of pathologic change is particularly noted in hay fever cases. In true hay fever cases, the symptoms do not last long enough to produce permanent changes in the mucous membrane, and consequently the nose may appear normal at other times during the year, but this is not true in cases in which the symptoms are perennial.<sup>1</sup> In allergic cases of long duration a definite change takes place in the mucous membrane. The color is almost gray, this being caused by a general hyperplasia of the epithelium and a marked infiltration of eosinophiles and lymphocytes.<sup>11</sup>

*Nasal Polyps:* Nasal polyps are extremely common in allergic conditions. They are comparatively rare in non-allergic individuals, even in the presence of extensive



and chronic sinus infection. Polypoid degeneration is more common in the perennial types of respiratory allergy, which is somewhat suggestive of a bacterial factor.

*Bacterial Factor:* No one has conclusively demonstrated that bacteria may be considered allergic agents of the type of other allergens, such as foods, pollen, etc. It is the opinion of Piness and Miller<sup>6</sup> and other workers<sup>10,12</sup> that bacterial infection, focal or general in itself, is not the etiologic factor that produces respiratory allergic manifestations. Infections may be present in the respiratory tract in the presence of an allergic condition, but that is purely coincidental or secondary to the already existing allergic disease on the basis that chronic or repeated acute edema of the respiratory mucous membrane causes hyperplasia of the lining mucosa of the sinuses, interferes with their blood supply and drainage, and causes them to become fertile fields for bacterial invasion.

Others are not in accord with this opinion. Walker,<sup>13</sup> Rackemann,<sup>8</sup> Wilmer<sup>14</sup> and Goodale,<sup>2</sup> believe where no reactions are obtained by skin testing, that the individual is sensitive to bacteria. However, this conclusion is hardly justified because of a possible error in the skin testing.

*Nasal Secretions:* The nasal secretions vary from thin watery material to thick tenacious mucus. In the early cases the secretion is usually more profuse and watery. When marked changes are present in the mucous membrane, the secretions are thick, tenacious, and grayish. If a secondary infection is present, the secretions are yellowish from pus.

When the nasal discharge is more profuse, or limited to the night or morning upon arising, it is well to give the patient a glass slide so he may make the smear himself.

Egermann has stated that 72 per cent of allergic individuals in his series showed eosinophiles, while only 9 per cent of non-sensitive individuals showed eosinophiles. In our series of 175 allergic patients, the eosinophile count varied from 1 to 18 per cent with an average count of 5.2 per cent.

Most rhinologists are acquainted with the value or limitations of the x-ray in aiding in the diagnosis of sinus disease either from an allergic or bacterial cause. It has been demonstrated by Proetz that:

1. The membrane lining the maxillary sinus may through allergic or other agencies vary enormously in thickness in the course of a few hours.

2. The edema may be confined to a single sinus.

3. A single x-ray examination, revealing a thickened sinus membrane, is insufficient grounds for sinus surgery.<sup>7</sup>

### Skin Testing

We have in general carried out the skin tests by both the scratch and intradermal methods. In all cases the scratch tests should be done first. These are followed by intradermal tests for those substances which were negative to the scratch.

It should be emphasized that only by the dual method of testing is it possible to determine all the sensitizing factors. Some allergens show up better by the scratch method, while others show up better by the intradermal method. There is considerable danger attached to making the intradermal tests without preliminary scratch testing. This danger consists in the possibility of severe general reactions, characterized by hay fever, asthma, hives or even severe anaphylactic shock. In all cases of allergic rhinitis an autogenous house dust extract should be made and the patient tested with this material. Occasionally it is even necessary to make extracts of the patient's own pillow, mattress and of the fur of his own pets.<sup>4</sup>

The limitations of sensitization tests are:

1. Clinically sensitive, but skin does not react.
2. Positive tests may be obtained but patient may not be clinically sensitive.
3. Patient may not have been tested for his specific allergens.
4. Material must be potent and free of foreign matter or tests may be negative or too many positive reactions (pseudo-reactions) occur.

### Treatment

The treatment consists of the (1) treatment of the allergy and (2) the treatment of the nose and sinuses.

(1) The treatment of allergy itself consists of:

a. Prophylaxis: Every source of the offending allergens should be considered. The elimination of inhalants, food, dusts, powders, etc., which may be suspicious of-

fending substances should be instituted, whether positive skin tests do or do not reveal the specific etiologic factors.

The patient should be given these instructions for the preparation of a dust-free room:

1. Remove carpets, rugs, and drapes.
2. Remove doilies and covers from dressers.
3. Enclose mattress and pillows with rubber sheeting
4. Wipe floor, radiators, woodwork and furniture with oil twice weekly.
5. Wash curtains once a week, if used at all.

b. Desensitization: Desensitization can be carried out for any allergen and is especially valuable in the case of pollens, house dust and the common foods which are not easily avoided in the diet. The method is very similar to pollen treatment and consists of some 15 to 30 injections of the specific extract, beginning with a dose below the point of tolerance, gradually increasing the amount with each injection. After such a course has been given, it may then be necessary to continue with one injection every two or three weeks to maintain immunity. Treatment with autogenous house dust extract in particular has been extremely successful and, combined with a dust-free environment, has produced brilliant results in our hands.

c. Use of drugs: Under this heading can be included internal medication with calcium, viosterol, ephedrine, and synthetic ephedrine. Therapy with acid preparations has not been very successful in our hands and we have been unable to repeat the excellent results reported by others using this method.

d. Non-specific therapy. We have found intravenous injections of calcium gluconate from 5 to 10 c.c. and injections of sodium salicylate 20%, 10 to 15 c.c., have in some patients produced excellent symptomatic relief. The use of non-specific therapy, including catarrhal vaccines, milk injections and typhoid vaccine, has occasionally been successful in providing temporary relief and should certainly be tried pending the application of more specific measures.

To recapitulate, the methods of therapy in allergy are:

1. Removal of offending agent.
2. Desensitization with specific extracts.

### 3. Non-specific therapy:

- a. catarrhal vaccine—stock or autogenous
- b. autoclaved milk
- c. typhoid vaccine
- d. nucleoprotein
- e. x-ray therapy

### 4. Symptomatic therapy for attacks.

#### (2) Treatment of the nose and sinuses:

The local treatment in the acute stage of an allergic rhinitis gives only temporary relief in varying degrees and is confined largely to ephedrine. When ephedrine causes sneezing, synthetic ephedrine may be substituted. Nasal packs seem to aggravate the acute rhinitis. Operative treatment should not be performed during an acute attack. Even the removal of large polyps in an acute allergic stage does not give the relief expected. Treatment of patients with polyps must include attention to the allergic factor; the failure to reckon with this factor is the true cause for the post-operative recurrence of the condition.

Radium has been a helpful agent in the prevention of obstinate recurrent polyps; 50 mg. in a brass filter given for two to three hours at a time for two or three treatments at weekly intervals has been safe.

Deviations of the septum causing definite obstruction should be corrected. Electrocoagulation of hypertrophic turbinates appears to have advantages over surgical removal. Less of the mucous membrane is destroyed with preservation of its normal function.

The rhinologist is becoming more conservative in advising surgical intervention in sinusitis since he has learned that when an allergic background is present, the sinus disease frequently disappears upon correction of the allergic imbalance. However, when the pathologic changes in the mucous membrane of the sinuses have progressed too far for resolution and it has lost its ability to overcome the infection, then surgical intervention is imperative. Various authorities differ on the method of surgical attack. The patient is deserving of a trial of conservative surgery in many instances. When radical surgical intervention is indicated, that technic should be employed which permits the best exposure so that every vestige of mucous membrane can be removed and adequate drainage maintained in the future.

Occasionally in obstinate cases, the pa-



tient cannot be sufficiently relieved of the nasal symptoms by one or more of the procedures suggested. It is possible to render the mucous membrane less sensitive by the application of a caustic. Trichloroacetic acid and silver nitrate have been employed. Trichloroacetic acid is preferred. It may be used in full strength with caution. A small applicator should be used and the cotton so moistened that the cauterization can be limited to the desired areas. The injection of alcohol has not been used in this series.

When a purulent sinusitis exists with or without an allergic background, vaccines are a valuable adjunct in the treatment. Both the stock and autogenous vaccine has been employed. There appears to be a better response to the autogenous vaccine. Purer cultures can be obtained from the sinus directly than from the discharge in the nose. No standard dosage should be recommended. What may be adequate and tolerated by one individual, may be far from adequate in another.

We have observed that the histories in some of the cases of hay fever in children are as follows:

The tonsils and adenoids were taken out last June and he comes to see the doctor because of rose fever the following year. Or his tonsils were removed last August and he comes to see the doctor because of the fall type of hay fever.<sup>5</sup>

It is quite possible that in an individual constitutionally able to develop a sensitivity, it would be advisable not to traumatize the mucous membrane of the nose and throat during the pollinating seasons.

The causes for failure of diagnosis are:

a. History—It is important that a very careful history be taken so that clues to the specific allergen involved may be obtained.

b. Incomplete skin tests.

c. Failure of patient's skin to react to a specific allergen even though clinically sensitive.

d. Failure to associate an allergic background in early cases where the nasal signs and symptoms are borderline.

The causes for failure of treatment are:

a. Impotent extracts of specific allergens.

b. Insufficient dosage; for example, successful pollen therapy for hay fever in this climate usually means from 30,000 to 60,000 units of pollen extract for average cases, requiring from 25 to 35 injections to attain this dosage, in contradistinction to the usual 15 dose treatment sets.

c. Over-treatment—In very highly sensitive individuals the treatment itself may aggravate the patient's symptoms. Although these patients are rare, they require very minute doses and are often relieved of symptoms without any elevation of their dosage.

d. The treatment of the nose as a disease entity rather than a local manifestation of a general constitutional alteration.

The diagnosis and treatment of the allergic patient is an extremely individual matter and no routine can be mapped out which would apply to every patient. For this reason each case must be approached very cautiously and the diagnosis and treatment worked out for each individual to insure the best results.

### Bibliography

1. Feinberg, Samuel M.: Nasal allergy as related to hay fever and hyperesthetic rhinitis. *Ann. Otol., Rhinol. and Laryngol.*, (September) 1930.
2. Goodale, J. L.: *Trans. Amer. Laryngol. Assn.*, 1922.
3. Hansel, F. K.: Clinical and histopathologic studies of the nose and sinuses in allergy. *Jour. Allergy*, (November) 1929.
4. Levin, Samuel J.: Allergic diseases in children. *Jour. Mich. State Med. Soc.*, (February) 1932.
5. Levin, Samuel J.: The asthmatic child. *Jour. Mich. State Med. Soc.*, (August) 1933.
6. Pinness, George, and Miller, Hyman: Treatment of allergy. *Am. Otol., Rhinol. and Laryngol.*, (September) 1927.
7. Proetz, Arthur W.: Sudden allergic reactions in the maxillary sinus. *Jour. Allergy*, (May) 1930.
8. Rackemann, F. M.: *Trans. Amer. Laryngol. Assn.*, 1922.
9. Rackemann, F. M., and Smith, L. B.: Ragweed hay fever symptoms and pollen concentration compared. *New England Jour. Med.*, (April) 1931.
10. Selfridge, Grant: *Laryngoscope*, 32:243, (April) 1922.
11. Steinberg, Bernard: Recognition of the allergic state by tissue examination. *Am. Jour. Clin. Path.*, 4: No. 2, (March) 1934.
12. Todd, F. C.: *Jour. A. M. A.*, 59:1090, (September) 1912.
13. Walker, I. C.: *Trans. Amer. Laryngol. Assn.*, 1922.
14. Wilmer, H. B., Jr.: *Annals of Otol., Rhinol. and Laryngol.*, (September) 1926.

## THE PERIODIC HEALTH SURVEY IN WOMEN

EDWIN S. HOFFMAN, M.D.†

DETROIT, MICHIGAN

Many pages have been written on the necessity of a periodic health examination. Its importance can not be over-emphasized. The public, however, still views the physician with a good deal of suspicion. It is a positive fact that many people regard our pleas for periodic health examination as merely a "drive" for more patients. Most physicians will agree that there are many women dying of cancer of the pelvic organs who should never have come to such an end. Most of the cancers of the pelvic organs we see are far advanced. Radical methods of treatment must be resorted to and in the end the results are not favorable. If we wish to continue to advance in our fight against cancer we must fully appreciate the importance of preventive medicine. The incidence of malignancy of the pelvic organs in women could be greatly reduced if patients would consent to a least a semi-annual pelvic examination. This is just as important in the unmarried as in the married woman; just as important in the nulliparous as in the multiparous; and just as important in the woman under forty years of age as in the woman above forty years of age.

The field of preventive medicine is full of noteworthy accomplishments. Diphtheria, scarlet fever, typhoid fever, and smallpox once headed the list of causes of death. Fewer death certificates are signed in which these diseases are the cause than ever before, and solely because of the work that has been done in preventive medicine.

In any coöperative procedure three requisites are necessary. First, there must be a *need* for such a program, whatever it may be; second, a *plan* or *method* of procedure; and third, a *desire* on the part of the members concerned to help. Certainly there is a *need* for greater coöperation between physicians and lay people in the prevention of cancer. If this be not true, why have hundreds of cancer centers been organized throughout the country during the past few years? Unfortunately, however, most of these centers are concerned mainly with the treatment of cancer after it has developed. Very few cancer clinics have as their main objective the treatment of those conditions which may develop into cancer. I offer a plan that should at least tend to prevent

cancer of the female pelvic organs. All that remains then is a desire on the part of the physicians and lay people to coöperate.

Unfortunately, the lay person believes that no symptoms means no disease. Women patients should be instructed that an asymptomatic pelvis does not necessarily mean a normal pelvis. There is still much to be done in the field of preventive medicine, and in this endeavor the greatest task which confronts us is the education of the lay public through legitimate channels. We must be practical in our plea for public coöperation. I believe the time has come when we must face, on the field of battle, those commercial houses which have, during recent months, monopolized the radio. Their misrepresentations are evident to any doctor of medicine, but they appeal to the public. Recently the Federal Trade Commission was successful in exposing the "benefits" of a widely advertised pharmaceutical product. Commercial medicine, which is about as scientific as ditch digging, should be the target of every progressive physician. Of recent months many fine lectures have been given by physicians over the radio. There should be more such lectures.

Can carcinoma of the female organs be reduced appreciably simply by education of the public? I believe that it can. Perhaps the most outstanding worker in this field is Dr. Joseph C. Bloodgood of Baltimore, Maryland. His tireless efforts have been rewarded. Why? Because, through legitimate channels the lay public has been warned against neglecting lumps in the breasts, no matter how small or insignificant they may appear to be. Most women now know that a lump or injury to the breast, if treated early, will never result in cancer. Some twenty years ago eighty-five per cent of all tumors of the breast were malignant when

†Dr. Hoffman received his Bachelor's degree from the University of Michigan in June, 1927, and his Doctor's degree in June, 1930. During his sophomore year he was assistant in the Department of Bacteriology. He served his internship in the Grace Hospital, Detroit, later taking postgraduate work in surgical pathology at Johns Hopkins. Dr. Hoffman was resident surgeon at the Fifth Avenue Hospital, New York City, from January, 1932, to January, 1933. He specializes in gynecology.



first seen. At the present time, fully sixty per cent to seventy per cent of tumors of the breast are benign.

Dr. Bloodgood writes:

"As more and more women are correctly informed, and there is less delay in seeking advice after a warning by some sign or symptom in the breast, the number of patients in the clinically benign group increases rapidly. The clinical group in which operation has been decided against, and in which malignancy can be excluded with practically no risk, has in thirty-three years increased from less than one to more than seventy per cent. When the average duration of symptoms is decreased from three months to less than one month, there will be a greater increase, and the number of patients will be still further augmented when more women have been taught the importance of the periodic survey."

Of course, the breast is a more accessible organ than the pelvis. However, this should not be too great a stumbling block in attempting to get women to consent to periodic examinations. Years ago the breast was considered inaccessible from the standpoint of the patient. With the right kind of propaganda, women would soon regard examination of the pelvis in the same light as they now regard examination of the breast.

The first step then in this movement would be for every physician to talk to his women patients. To start with, no further means of informing the public would be necessary. I am sure that very few doctors can truthfully say that they know what is inside the pelvis of, say, twenty-five per cent of their women patients. The number of women who could be reached through this simple procedure would be tremendous. The radio, as mentioned above, would reach many more.

The second step in this movement should really be the first step. If we are to have more pelvic examinations, the average physician must know more about examination of the pelvic organs. He too must learn that a negative history does not mean a negative pelvis. Unfortunately, many of the younger physicians regard the examination of the pelvic organs as a simple procedure. Most of the young physician's knowledge of pelvic examinations is obtained while in medical school. Numerous didactic lectures make up the greater part of his teaching. An interne is so full of theory that he often fails to realize the importance of giving his theory a practical application. Theoretical training is useless unless it is followed by a well-rounded

course in clinical observation. The most important part of a medical student's training begins with his internship. Many internes fail to realize this, and unfortunately we, as licensed physicians, fail to realize it too. A carefully arranged program of instruction for internes is, in most hospitals, conspicuous by its absence. The interne is left to struggle through his internship by himself. Our hospital clinics are full of abundant material for teaching purposes, not only for the interne, but for the young physician in practice. Every physician can not expect to become an expert in bimanual examinations, but at least he can become proficient enough to recognize those pelvic conditions which may later result in cancer.

A good pelvic examination has as its minimum requirements:

*History Taking:* A very complete history, remembering that the pelvis is but a part of the patient.

*Physical Examination:* A general physical examination should precede all special examinations. Careful attention should be given to the abdomen because of the close relationship between the pelvic and abdominal contents.

*Vaginal Examination:* This should always be done with surgical gloves and a good surgical lubricant. Inspection of the external genitalia will at once inform the examiner as to the distribution of hair, development, etc. Before beginning the examination proper the presence of pus in the urethral meatus may be determined by causing pressure on the anterior vaginal wall. At the same time any acute inflammatory process about the meatus may be noted. Following this, the index finger and thumb of the examining hand are used to palpate the labia and determine, if possible, the presence or absence of infection of the Bartholinian glands. Next the amount of relaxation of the vaginal walls may be determined by having the patient bear down.

Palpation is continued by introducing first one finger, then two, into the vaginal introitus. In so doing the condition of the perineal body, amount of relaxation of the pelvic floor, condition of perineal muscles and vaginal walls are noted. As the examining fingers are passed further up the vagina the cervix is located. Its position, size, shape and mobility are determined.

Erosion, laceration, cystic degeneration, and discharge can frequently be more satisfactorily determined with the examining fingers than on speculum examination. The cervix is completely encircled, and in so doing any fulness, bulging, masses, or tenderness in the cul-de-sac may be noted.

The pelvic examination as so far described is most important. Many examiners when doing a pelvic examination will determine the position and size of the fundus uteri and consider that a sufficient examination has been made. Such an examination will tell the inquisitive examiner very little.

The position of the fundus uteri can often be foretold by the position of the cervix. This may not always be true, however, because retro- or anteflexion without retroversion may cause displacement of the cervix.

In palpating the uterus, its position, size, shape and mobility are carefully noted. Irregularity in contour, pain on motion and degree of mobility may prove to be important factors in making a diagnosis. The adnexa are then examined for abnormali-

ties. If masses are palpated, an attempt should be made to determine whether the mass is separate from, attached to, or an inseparable part of the uterus.

*Rectal Examinations:* No pelvic examination is complete without a rectal examination. It may substantiate one's pelvic findings, or, on the other hand, it may alter the findings considerably. At the same time abnormalities of the lower rectum may be determined.

In conclusion let me briefly summarize: There is, you will agree, a need for some sort of a plan whereby the incidence of carcinoma of the female pelvic organs can be reduced. The plan as I have outlined should include: (1) Education of the public by means of radio addresses and by personal conversation between physician and patient. (2) More pelvic examinations should be done by more doctors. (3) Better courses of instructions for our internes so that they may know the basic requirements of a satisfactory pelvic examination. All that remains is the desire for physicians and lay people to carry out some such plan.

## ECTOPIC PREGNANCIES\*

### A Review of 218 Cases

DAVID M. DAVIDOW, M.S., M.D.†

DETROIT, MICHIGAN

Ectopic pregnancy has always been a subject of considerable interest to medical men, but more especially during the past few years, apparently due to the increased number of such cases which have been diagnosed and properly treated. This increase in number may be attributed to various factors, among which is a better understanding of the condition with more accurate diagnosis and installation of proper treatment, by men who have had more thorough training and greater facilities for clinical experience. It is said that the increase in the incidence of cancer is due to better diagnosis of that condition; similarly, the same may be said of ectopic pregnancy.

Our interest in the subject was aroused by the marked rise in the number of cases

coming into the Receiving Hospital during the past three or four years. Whereas, in 1926 and 1927, only ten to fifteen cases were seen during a year, at the present writing, four to five cases are seen monthly. An explanation for this may be found in the fact that since the economic depression, a greater number of patients have been cared for at the Receiving Hospital and also that the City of Detroit has been forced, through necessity, to reduce the number

\*From the Gynecological Service of the Detroit Receiving Hospital.

†Dr. Davidow is a graduate of the Detroit College of Medicine, now Wayne University (1928). He interned at the Grace Hospital, Detroit, 1928-1929; served three years' residence in Obstetrics and Gynecology at the Detroit Receiving and Herman Kiefer Hospitals, 1929-1932; received Master of Science degree in Gynecology from Wayne University in 1933. He is Junior Attending in Obstetrics and Gynecology at Women's Hospital; Junior Attending in Gynecology at the Evangelical Deaconess Hospital; and Assistant in Out-Patient Department of Gynecology on the Receiving Hospital Staff.



of patients sent to other hospitals in the city. The increased load on the Gynecological service has often been three or four times the number taken care of before 1929.

This paper will attempt to correlate the clinical findings in 218 cases of ectopic pregnancy treated during the years 1926 through 1934.

It has been said by Schumann that the first recorded case of extra-uterine pregnancy was that of Albucasis, an Arabian physician living in Spain about the middle of the Eleventh Century. The earliest definite surgical interference for the removal of an ectopic fetus was done by Primerose in 1594. Riolan, in 1604, recorded a case of tubal pregnancy with rupture and the classical symptoms. Mauriceau, in 1669, described a case of ruptured extra-uterine pregnancy rather elaborately and started a bitter medical controversy. The first suggestion of a true understanding of the cause and phenomena of extra-uterine pregnancy was found in the works of Pierre Dionis, published in 1718.

The premier operation for extra-uterine pregnancy in America was that of Dr. John Baird, a New York surgeon, who described it in a letter dated December 25, 1759. It was Lawson Tait, in 1883, who thoroughly established the operative treatment of ectopic pregnancy. The first American operation for ruptured ectopic pregnancy in the acute state was by Dr. Charles K. Briddon of New York, in October of 1883.

According to Schumann, pregnancy is extra-uterine once in every 300 cases. At the Jefferson Hospital the condition was encountered 83 times in 3,747 ward cases (2.4 per cent) as reported by Anspach in the recent volumes on Obstetrics and Gynecology edited by Curtis. At the Receiving Hospital during the past five years, there have been 140 cases of Ectopic pregnancy among 1,734 laparotomies, an incidence of 8.0 per cent—which is a high figure in comparison with other statistics. This can be explained however, as pointed out previously, by the change in class of patients seen at the hospital during this period of economic distress.

The etiology of this condition is thoroughly and theoretically described by all the textbooks and a myriad of conditions presented which might bring about an

ectopic gestation. In brief, it may be stated that:

I. Any factor which mechanically hinders the progress of the fertilized ovum to the uterus will lead to arrested development at the point of impediment. Such factors are:

A. External factors distorting fallopian tube: 1. Chronic inflammation with adhesions attached to outer surface of tube, angulating it. 2. Uterine tumors—parovarian cysts, ovarian tumors, etc., which press on lumen of tube.

B. Internal factors: 1. Inflammatory changes in tubal mucosa with resultant fibrosis—formation of bands, pockets, etc. 2. Polyps of the tube. 3. Persistence of fetal type of tube. 4. Diverticula from lumen of the tube. 5. Accessory ostia. 6. External transmigration of the ovum: fertilized ovum on one side passing across pelvis to tube on opposite side. 7. Tubal spasm—this being brought on by tubal insufflation or use of abortifacients.

II. It is now said that the factor which favors an ectopic pregnancy irrespective of some type of obstruction is a decidual reaction stimulated by the corpus luteum hormone, that invites attachment to the surfaces with which the ovum comes in contact. Anspach gives a very concise and modern picture of this theory in Curtis' latest text, and says that such a reaction is essential to the implantation and growth of the ovum.

The pathology of this condition is very well known and little need be said about it. We may emphasize the fact that the uterus does become enlarged as a result of the increased blood supply which develops when conception occurs and sometimes the uterus reaches the size of a six weeks pregnancy. The greatest change, however, occurs in the endometrium where there is a definite decidual reaction characteristic of pregnancy which is not always complete. This decidua remains until the fetus dies, after which it is cast off, and during this time the spotting or bleeding occurs. Wherever the ovum becomes attached, the reaction of the surrounding layer of ectoderm consisting of chorion-trophoblast cells, villi, etc., is fundamentally the same; whereas the reaction of the surrounding part, of necessity, depends upon and varies with the location of the fertilized ovum and the tissues involved. Thus, the development of the extra-uterine pregnancy with its possible sudden termination depends upon its location. An abdominal pregnancy may go to term whereas a tubal pregnancy usually terminates at six to eight weeks.

The classification of possible locations for extra-uterine pregnancies is very well described in Kelly's textbook and will not be considered here except to say that of the 218 cases reviewed, there were two cases of abdominal pregnancy, one ovarian pregnancy, one cornual pregnancy, and only nine cases of tubal abortion. Of these 218 cases, 210 patients were operated on, five died before operation could be done, and the other three patients improved with rest and supportive treatment, refused operation and went home upon signing their release.

An interesting observation noted was: that of this group of patients, 161 were white and only fifty-seven were colored, although the gynecological service at the Receiving Hospital usually runs from 50 to 65 per cent colored patients. The textbooks on gynecology say that race exerts no influence on the occurrence of ectopic pregnancy, yet our figures put us at a loss for an explanation.

The youngest patient in our series was eighteen years old and the oldest, forty-three. Seventy-nine per cent of the patients were in the age group of twenty-two to thirty-six years of age; or compared to Farrar's statistics based on 262 cases where she found 63 per cent of the patients between the ages of twenty-four and thirty-three, in our group 58 per cent occurred in that age period of twenty-four to thirty-three years.

All of these patients were married or had been married, and 159 patients had full term pregnancies at least one or more times; with the latest pregnancy occurring one and one-half years before the ectopic, in two patients; two years in four patients; and the remaining 153 patients having had their last pregnancy three to eighteen years prior. Sixty-one patients although married for periods varying from two to twenty-two years, had never had full term pregnancies; while of these sixty-one, nine patients had at least one miscarriage or incomplete abortion. In the group of 159 cases, sixty-eight patients gave a history of an incomplete abortion or miscarriage which might have been an etiological factor in the ectopic pregnancy which occurred later.

It is generally assumed that a patient having once been operated for an ectopic pregnancy is susceptible or liable to have

another occur, provided only the affected tube has been removed. Allowing for the abdominal, ovarian, and cornual pregnancies, there were 206 tubal pregnancies operated, and of these, only 8 patients had been previously operated for ectopic pregnancy. However, this is not direct evidence against the recurrence of ectopic gestation because it is impossible to follow up the operated cases on a charity service such as the one at Receiving Hospital, for any length of time. These people frequently are transients, irresponsible, and as a rule are poorly educated and thus minimize the coöperation necessary for a thorough follow-up study.

In studying this series, our attention was aroused by the number of patients operated for conditions diagnosed differently than the condition found—I refer to the so-called chronic or old ectopic pregnancy. With this thought in mind, we have classified this series into the acute ectopic and the chronic or old ectopic. The point of differentiation we assumed to be, the length of time after the rupture occurred before the patient was operated. Allowing as a standard, a period of 24 to 48 hours before admission and operation by reason of the patient's history, we find that among 218 cases, 117 may be called old ectopics and 101 acute.

The acute cases presented no special difficulty in diagnosis. The symptoms closely approximated the textbook description and in order of importance and frequency of appearance in this group, we list the following:

Subjective symptoms consisted of sudden onset of acute lower abdominal pain, frequently awaking the patient from a sound sleep. In about 30 per cent of these cases, pain was also referred to the shoulder posteriorly. It was interesting to note that the pain did not necessarily occur on the side of the rupture, for frequently the patient complained of pain on the right or left side and the rupture was found to occur on the opposite side. There was faintness or dizziness, especially when patient attempted to rise or move about. Irregular menses or missed period was a symptom almost 100 per cent constant but of course very little attention was paid to it by the patient, and careful questioning was frequently necessary to bring out that fact.



Spotting or bleeding occurred in nearly all of the cases and varied from a slight staining of the underwear to the passage of very large clots which at times simulated an incomplete abortion. In every case, this spotting occurred before the onset of pain. There was usually a period of sterility; lasting from one and one-half to twenty-two years. Nausea and vomiting occurred in about 25 per cent of the cases and varied very much in severity. Pain on defecation was noted in about 25 per cent of the cases.

The objective signs consisted of shock and evidences of hemorrhage which was very typical in the acute cases, and even the colored patients looked pale, if that expression may be used. Air-hunger was frequently present, too. The next important objective sign was exquisite tenderness on movement of cervix. This was universally present in all the acute cases even though a definite mass could not be felt in the pelvis. A mass was palpable in the cul-de-sac or either adnexæ, depending upon location of tube affected. An excellent diagnostic aid is the aspiration of the cul-de-sac contents by means of a long sharp needle and syringe. This was used seventeen times in this group with the presence of blood disclosed every time. Enlargement of uterus and softening of cervix—this was not a very constant sign and, due to severe pain caused by examination, the exact size and position of uterus could not always be made out. Microscopic examination of uterine curettings was made in four cases with negative results—probably this was due to expulsion of all the decidual cells with early death of extra-uterine fetus.

All textbooks and many observers mention the presence of Cullen's sign; which is a discoloration of the umbilicus due to free intra-peritoneal blood. Not once was this sign seen in either the acute or old ectopic gestations.

Laboratory findings showed a deviation in the normal blood picture. In recent hemorrhage a secondary anemia was noted with a rise in the total white cell count in 50 per cent of the cases. At times this rise was as high as 37,000 cells but as a rule the filament non-filament count remained practically normal, which differentiated the ectopic condition from an inflammatory one.

The sedimentation test was done in 190

of these cases and in nearly every case the red cells settled out more rapidly than normal although never as rapid as in the cases of acute infection, pelvic abscesses, or tubo-ovarian abscesses. This test then is another diagnostic aid in conjunction with the filament non-filament count, but both laboratory tests are even more important in the question of old ectopics.

A study of the 117 old ectopic cases disclosed the fact that in spite of massive old hemorrhages in the abdomen or pelvis, the amount of discomfort suffered by the patient was surprisingly small.

The most important symptom, seen in every one of these cases, was that of irregular bleeding and irregular menses lasting over a period of several months. Pain, usually definitely localized in either quadrant was the next most important symptom and was present in 97 of the cases. This pain was not as sharp or acute as in the recent ectopics but more cramp-like in nature and intermittent. Only seven of these patients complained of pain transmitted to the shoulder. Nausea and vomiting was more pronounced in these cases and painful defecation more frequent in occurrence.

The objective signs disclosed an individual with a moderate secondary anemia and physical findings of pelvic infection. With the history of irregular menses, lower abdominal pain and the presence of a pelvic mass of varying size and consistency, the most commonly made diagnosis was that of tubo-ovarian abscess or cul-de-sac abscess, depending upon location of the hemorrhagic mass. In eighty-six of these 117 cases such a diagnosis was made, and it is interesting to note that in 90 per cent of the ninety-six cases where a sedimentation test had been done, the rate was not as rapid in these chronic ectopics as in pelvic infections as reported by us in a previous paper. The rate noted for conditions with pus in the pelvis was usually below 25 minutes, whereas in these cases of ectopic pregnancy the rate was over forty minutes. The exceptions were those cases of ectopic which had become infected. In the non-infected ectopic pregnancy of long standing, there usually was a moderate degree of anemia, both in hemoglobin and red blood cell count. The leukocyte count was normal or slightly elevated, while the per-

centage of non-filament cells was normal or slightly above the normal of 8 to 16 per cent. In the inflammatory conditions of the pelvis we had previously noted an increase in the non-filament count at times as high as 58 per cent, with a corresponding decrease in the lymphocytes. Thus we have another differential point in the diagnosis of old ectopic pregnancy from pelvic infection.

Of the 218 cases, 210 patients were operated on, and of these, 198 recovered, which gives us an operative mortality of 5.7 per cent. A discussion of these deaths will be given later. It was and still is the rule of our staff never to operate the acute cases until the shock has been treated and the patient has responded to supportive treatment. This means using intravenous glucose, interstitial salines and blood transfusions. An attempt was always made to bring the patients' blood pressure over 100 mm. systolic before opening the abdomen. General anesthetic, consisting of gas induction and ether was used in 192 cases and spinal in eighteen cases. In none of the eighteen cases of spinal anesthesia was there an anesthetic accident, which confirms Dr. Krieg's observation in a recent paper on spinal anesthesia, that spinal anesthesia is not contra-indicated in cases of recent shock, if the shock is treated before operation. Direct transfusion was resorted to in 51 of the acute cases, as a rule, before or directly after operation. It has been found that the proper time is directly before opening the abdomen because there seems to be considerably more shock to opening the peritoneal cavity in the presence of a severe anemia than ordinarily. One of the men operating had a patient die because the abdomen was opened before the donor arrived. In the recent cases of hemorrhage, with bright fresh blood in the abdomen, the various operators have sponged out the blood, placed it in sterile containers holding 200 to 300 c.c. of warm normal saline and 50 to 100 c.c. of 5 per cent sodium citrate, and had an assistant stir it rapidly and then filter through gauze two or three times before injecting this solution back into the patient's blood stream. This method of auto-transfusion had been used on twenty-one cases of acute hemorrhage, with no untoward results.

The patients respond very well to this procedure.

As mentioned before, there were two abdominal pregnancies, one ovarian pregnancy, and one right cornual pregnancy. There were 206 tubal pregnancies in which operation was performed, with the right tube affected 104 times, and the left tube 102 times. Tubal abortions were seen only on nine occasions. In all cases conservative surgery was done, especially in the acute cases where only the acute condition was relieved and the patient's general condition considered before attempting other surgery; such as appendectomy or removal of other tube, if diseased. In the chronic cases more radical surgery was done depending upon the amount of pathologic change found. In 197 cases of ruptured tubal pregnancy, the rupture occurred in the distal one-third of the tube in 128 cases, middle third 52 times, and the proximal third seventeen times. The pathologist also reported evidence of tubal inflammation in 130 cases or an incidence of 66.2 per cent. The salpingitis was of varying degrees from acute to hydrosalpinx type and it may be assumed from these figures that tubal infection is one of the most common causes of ectopic pregnancy.

The average length of time of the patients in the hospital was twelve to sixteen days, with an average operative morbidity of ten to twelve days. Very rarely did a patient remain longer than sixteen days—one in question was in several months before referred to the Gynecology department. She had been diagnosed and treated as a primary anemia for two and one-half months and was the oldest patient in our group. In the follow-up service in the outpatient department approximately 75 per cent returned in four to six weeks for final examination. In none of these were there found any postoperative complications.

There were seventeen deaths in this series of 218 cases, four occurring within twelve hours after admission, these patients being moribund on admission and not responding to supportive treatment. One patient was white and three were colored patients, and had histories and physical findings of acute ruptured ectopics; later proven by coroner. This may explain why so few colored patients were found to have ectopics, on the Receiving Hospital Gynecology



cological Service. The colored race apparently shuns the hospital until it is only one step removed from the coroner's office. The other death before operation occurred in a white woman who had an acute rupture about twelve hours before admission. She was in shock and moribund; was given intravenous glucose on admission and three hours after admission given 500 c.c. whole blood by direct transfusion; she never did respond to supportive treatment and died forty-eight hours after admission.

Of the twelve deaths occurring after operation, four of the patients were colored and eight were white. Peritonitis was the cause of death in two cases. One patient died of paralytic ileus three days after laparotomy. One died three days after operation of a hypostatic pneumonia. Two died on the operating table of shock before the donor arrived. Six died within forty-eight hours after operation in spite of supportive treatment and blood transfusion. These may be classified as deaths due to shock. One of the peritonitis deaths occurred in a colored woman, aged thirty-six, who at operation was found to have an unruptured right tubal pregnancy of four and one-half months' duration. This patient died four days after operation.

### Conclusions

1. There appears to be an increase in the number of cases of ectopic pregnancy.

2. Of the 218 cases presented, 161 (73.8 per cent) were white women, and fifty-seven (26.2 per cent) were of the negro race.

(3) This series can be classified readily into an acute and chronic group; there being 101 of the former and 117 of the latter.

(4) Seventy-nine per cent of these patients were in the age group of twenty-two to thirty-six years of age.

(5) Irregular or missed period was the most important symptom common to both acute and chronic ectopics.

(6) The sedimentation test and filament non-filament differential count are valuable adjuncts in diagnosis—especially in the chronic cases.

(7) In 210 operated cases there were twelve deaths—an operative mortality of 5.7 per cent.

(8) Blood transfusion is very valuable supportive treatment in the acute cases; auto-transfusion offers an easy valuable method in certain cases.

## HYPERPARATHYROIDISM—WITH BLOOD PHOSPHORUS AND CALCIUM CHANGES

### A Report of Three Cases

I. I. BITTKER, M.D.†

DETROIT, MICHIGAN

Within the last few years there has been considerable investigation and work on that symptom complex known now as hyperparathyroidism or parathyroidism. A disease characterized by a high blood calcium, low blood phosphorus and high calcium and phosphorus excreted in the urine, with symptoms that are due to a demineralization of the skeletal structures.

In the cases presented by Albright, Aub, and Bauer, those that showed a low serum phosphorus were the typical hyperparathyroidism cases. Anything below 3 mg. per 100 c.c. were relieved by operation. One case had 4.7 mg. and that case had tetany. One 3.6 mg. was a very early case. One 3.1 mg. had a thyroid tumor.

In my opinion more stress should be laid on the low serum phosphorus than on the

high serum calcium, as most cases will prove true to form.

In presenting two cases of parathyroid-ectomized individuals, Shelling and Goodman proved that in the opposite syndrome, namely parathyroid tetany, the cause of the tetany was not so much the low serum calcium as the relatively high serum phosphor-

†Dr. Bittker is a graduate of the Detroit College of Medicine and Surgery, 1917. He is Diagnostician of Contagious Diseases for Detroit Department of Health and is on the Medical Staff of the Evangelical Deaconess Hospital.

us. They also showed that the tetany resulting from removing too much parathyroid tissue can be successfully treated by a low phosphorus diet without parathyroid hormone.

The symptoms that Ballin described as being most prominent in hyperparathyroidism are back-leg-ache, pain in muscles and bones, muscular weakness that is very pronounced, and frequent falls due to hypotonia. He likewise pointed out that compression fracture of the spine should if caused without undue violence be an indication for blood chemistry study with a suspicion of hyperparathyroidism in one's mind.

Ballin grouped *osteitis fibrosa cystica generalisata*, Paget's disease, arthritis due to a demineralization and certain muscular hypotonia under the classification of parathyroidism.

Albright, Aub, and Bauer in a very splendid description, classified hyperparathyroidism in the following groups; skeletal decalcification with cysts (*Von Recklinghausen's disease*), osteoporotic form decalcification without cysts or tumors, Paget's type, and renal type.

Albright, Aub, and Bauer described a very early complaint that most of these cases have, and that is symptoms that are referable to flat feet, and reports some that were treated as hypochondriac and neurasthenic patients due to these symptoms. My case, Mr. J. E., on the first examination gave me the impression of a hypochondriac.

R. V. Funsten reports twenty-six cases of arthritis, following parathyroidectomy, of which only one case failed to show improvement. Of course, all these had the typical blood serum picture of hyperparathyroidism.

The cardinal symptoms and findings are:

History of long duration with exception of the acute fulminating type.

Age incidence—any age. The greatest number come between 20 and 50.

Flat feet for a number of years.

Back-leg-ache.

Pain in bones and muscles.

Immobilization, stiffness, and pain in joints involved.

Loss of stature.

Kyphosis.

In the arthritic type, as in the case of Mrs. L. E. the joint acutely involved had the feeling and gave the sensation to the examiner as though he was dealing with an ununited fracture, due to the demineralization of the bony tissues.

A compressed fracture of the vertebræ without

undue violence. Case T. S. had the appearance of an old fractured back.

X-ray finding of a general demineralization of the bones.

High serum calcium, low serum phosphorous, and high calcium and phosphorous excretion.

Anemia and leukopenia.

F. Mandl and R. Uebellör were the first to successfully remove a parathyroid tumor for *osteitis fibrosa generalisata* in 1925.

The pathologic change usually found in hyperparathyroidism is either an adenoma of one or more of the parathyroid bodies or a hyperplasia of these bodies.

In the blood chemistry, a serum calcium above 11 mg. per 100 c.c. with a serum phosphorous below 3.5 mg. per 100 c.c. is an indication of abnormal calcium and phosphorus metabolism.

Due to the fact that a number of investigators have described hyperparathyroidism, a great number of cases have been found. Some that were classified as hypertrophic arthritis, so called lumbago, sciatica, flat feet, and fractures without sufficient explanation as to cause. Today with the aid of x-ray and adequate blood chemistry we can diagnose and successfully treat these obscure cases.

The three cases which I am reporting would fall in the osteoporotic form as classified by Albright, Aub, and Bauer.

One case, Mrs. L. E., was an arthritic type with involvement of hands, knees, elbows, and ankles. Another, Mr. T. S., had an involvement of the vertebræ. The third, Mr. J. E., had a vertebral and muscular involvement. The second, Mr. T. S., did not show a typical high calcium, but showed a low blood phosphorus. The first, Mrs. L. E., developed a mild tetany following parathyroidectomy and convinced me that the change produced in the phosphorous metabolism is as great a factor as the change produced in the calcium metabolism. As suggested in the paper by Shelling and Goodman, she was placed on a very low phosphorus diet, given calcium gluconate by mouth along with magnesium carbonate, and within a few days showed remarkable improvement. She was not given any parathyroid hormone.

In the arthritic type of parathyroidism, the demineralized joint acutely involved will give a feeling of soft bone with crepitation and a sensation as though one were dealing with an un-united fracture.



The cases which I present are as follows:

**Case 1.**—Mrs. L. E., age fifty-one, housewife, widow, was admitted to the Evangelical Deaconess Hospital, July 28, 1933. Her past history was negative. She was well until two years ago when she began to have swelling in her ankles and feet. Her knees were next affected and then her elbows, wrists and fingers. All these joints later became stiff, swollen, and very painful. Physical examination showed her nutrition good, her blood pressure was, diastolic, 88; systolic, 148. Her ankles were swollen and tender, and showed limitation of movement. The knees were large, swollen, tender, and there was limitation of extension. The wrists were stiff and swollen, with limitation of motion. The phalangeal joints were hypertrophic, tender, and stiff. The laboratory examination revealed the following condition: blood calcium 12 mg. per 100 c.c., phosphorus 1.6 mg. per 100 c.c. The x-ray examination showed extensive demineralization of bones and joints. An operation was performed by Dr. D. J. Leithauser on August 16, 1933. Three parathyroid bodies were removed and reported by the laboratory as hyperplasia of the parathyroids. On August 22, following parathyroidectomy, her blood calcium was 6.67 mg. per 100 c.c., and her blood phosphorus was 5.58 mg. per 100 c.c. Immediately after the operation all pain disappeared from her joints and has not recurred. This patient had since developed tetany and her blood calcium was 8.8 mg. per 100 c.c. Phosphorus 5 mg. per 100 c.c. (11-24-34). As suggested in an article by Shelling and Goodman, she was placed on a low phosphorus diet, given calcium gluconate by mouth along with magnesium carbonate. The results of this treatment for her tetany were extremely satisfactory. She became very comfortable, with no pain in any joint, nor involvement of new joints, and her tetany became under control. At her last examination over a year after her operation she showed continued improvement. Her blood calcium was 10 mg. per 100 c.c., and her blood phosphorus was 4.7 mg. per 100 c.c.

**Case 2.**—Mr. T. S., aged thirty-four, a mechanic, is married and has three children living and well. His family history was negative. His past history revealed mumps and measles during childhood. In 1914, he consulted a physician for pains in his feet, which were diagnosed as due to fallen arches. These pains were very severe and necessitated treating his feet following a day's work. In 1918, he was honorably discharged from the army. Shortly after his discharge he developed pains in his back. In 1927, he had pains in his neck, head, back, legs, and hips. The pains were sharp at times and at times dull aching. In 1933, he reported to my office complaining of sharp pains in his back, neck, and hips, and also of frequent micturition. X-ray examination revealed decalcification of all bones, ankylosing spondylarthritis involving lower spine, fusion of lumbosacral joints, and lumbar articulations with bridging across of the intervertebral discs. There was also ankylosis of the symphysis pubis and thinning of the cartilage of the left hip joint. His blood chemistry, May 17, 1933, showed calcium 11 mg. per 100 c.c., phosphorus 2.6 mg. per 100 c.c. This was a fairly normal blood calcium, but a low serum phosphorus. He was operated on May 18, 1934, by the late Dr. Max Ballin. No parathyroid pathology was found in the tissues removed, but both parathyroid arteries were ligated. Following the operation, this patient made an uneventful recovery with complete relief of his symptoms, and he is now back at work.

**Case 3.**—Mr. J. E., aged thirty-six, single, was admitted to the Evangelical Deaconess Hospital,

April 12, 1933. The family history was negative. The past history revealed that he had smallpox and diphtheria in childhood. In 1918, he had gonorrhea complicated with epididymitis. In 1923, he had syphilis, which was successfully treated. He had a tonsilectomy and adenoidectomy in 1928. He had a fracture of the back in 1919 without undue violence. His present trouble started one year ago with pains in the neck, spine, and legs which became very severe. His most severe pain was in the cervical spine. This pain started at the neck and radiated up to the head. He was unable to turn his head for nine months. Physical examination was essentially negative with the exception of his spine and neck which were held extremely rigid. No masses were felt in the neck or over the spine. The lower extremities were very tender and painful. Laboratory examination revealed that the prostatic smear was negative for pus cells or gonococci. The spinal fluid showed 10 leukocytes per cmm., Gold test was negative, and Kahn and Wassermann were negative. His blood Kahn and Wassermann tests were also negative. His blood calcium was 14.2 mg. per 100 c.c. and blood phosphorus was 3.9 mg. per 100 c.c. X-ray examination showed fusions of second and third cervical vertebrae with extensive lifting and bridging of the articular surfaces of the fourth and fifth cervical vertebrae, narrowing of all intervertebral spaces, and demineralization of the vertebrae present. An operation was performed by Dr. E. C. Baumgarten. No parathyroid tissue was found. The vessels to left and right parathyroids were ligated. This patient has made an uneventful recovery with relief of pain within twenty-four hours. Recently I was informed by Dr. Baumgarten that this patient has since been married.

### Conclusions

The treatment of hyperparathyroidism by surgical removal of one or two diseased parathyroid bodies or the ligation of the parathyroid arteries is followed by immediate relief of symptoms.

The investigation of the blood phosphorus is as important as the investigation of the blood calcium.

A high blood phosphorus with a low blood calcium will produce tetany. A high blood calcium with a low blood phosphorus will produce demineralization of bones.

### Bibliography

- Albright, Fuller, Aub, Joseph C., and Bauer: Hyperparathyroidism. *Jour. A. M. A.*, 102:1276, (April 21) 1934.
- Ballin, M., and Morse, P. F.: Parathyroidism. *Am. J. Surg.*, 12:403, 1931; Parathyroidism and parathyroidectomy. *Ann. Surg.*, 94:592, 1931.
- Ballin, Max: Parathyroidism in reference to orthopedic surgery. *Jour. Bone and Joint Surg.*, 15:120-134, (Jan.) 1933.
- Elmslie, R. C.: Diagnosis and treatment of generalized osteitis fibrosa with hyperparathyroidism. *British Jour. Surg.*, 479, (Jan.) 1933.
- Funsten, R. V.: Certain arthritic disturbances associated with parathyroidism. *Jour. Bone and Joint Surg.*, 112, (Jan.) 1933.
- Mandl, F., and Uebellör: *Zentral blatt für Chirurgie*, Leipzig, 68: (Jan. 14) 1933.
- Shelling, David H., and Goodman, Morton: *Jour. A. M. A.*, 102:669, (March 3) 1934.

## SOME INTERESTING AND UNUSUAL LESIONS OF THE ORAL MUCOUS MEMBRANE\*

ARTHUR R. WOODBURNE, M.D.†

GRAND RAPIDS, MICHIGAN

Lesions of the mouth fail to receive their proper attention in most dermatologic literature and at most of our meetings. It has been my privilege during the past year or two to see a good many interesting lesions of the oral mucous membrane, largely through the kindness of Dr. Yeretsky, peridontist, and Dr. Northrop, oral surgeon.

Streptococcic hypertrophic gingivitis is a name for a group of cases characterized by the symptoms of an acute infectious disease, with the only evident area of infection limited to the gum tissue and marked by extensive hypertrophy. These cases have all given on culture a pure growth of streptococcus viridans. The following three cases are typical.

*Case 1.*—Miss L. H., aged twenty-seven, referred to the department of Oral Surgery, gave a history of an acute sore mouth and throat, beginning shortly after her teeth had been cleaned by her dentist six weeks ago. Following this, her gums became inflamed, sore, swollen, and tender. The soreness extended onto the mucous membrane of the mouth and hard palate. There was some elevation of temperature. Her dentist made a diagnosis of Vincent's angina and gave her some forty treatments including all the routine medication used in this disease, including one intravenous injection of nearsphenamine with no great relief. Astringent mouth washes produced some temporary improvement, but a few days later there was a marked recurrence, and it was at this time that we saw her.

She presented bright red rolled soft gingival margins. This border was edematous and pushed up between and along the labial and lingual surfaces of all the incisor teeth, but occupied only the buccal surfaces of the molars. Between the teeth varying sized hypertrophic masses of gum tissues protruded. The larger masses were raised away from the crowns of the teeth in several spaces. No ulceration, erosion, pustules, or vesicles were seen. There was no membrane or purulent discharge. There was considerable salivation and the patient complained of a sticky secretion in the mouth, which was probably a serous exudate.

Complete physical examination was negative except for: the pulse, which was 84; the temperature, 99.2°; the above condition of the mouth and a chronic tonsillitis. The Kahn test was negative. The blood count showed normal white and differential counts with a red count of 3,860,000. The urine was negative.

Direct smears taken from the crest of the gums showed many cocci, a few long rods, and a few large spirochetes and spirilla.

Dark-field examination showed only rare coarse spirochetes.

Culture after seventy-two hours showed rare colonies *Staphylococcus aureus*, but the plate was largely covered by colonies of *Streptococcus viridans*. Cultures on Sabouraud's medium showed no fungus growth.

Treatment consisted of frequent washing of the mouth with saline solution. Mercurochrome 2 per cent, as advocated by Mead,<sup>1</sup> was first painted on and injected under the gums; later 1/500 solution metaphen was used. The results from this later treatment seemed to be better than the mercurochrome. Peroxide of hydrogen in dilute solution was used for a few days as a mouth wash. The hypertrophic tissue was touched up with a saturated solution of copper sulphate occasionally. Inside of one week the mouth was entirely well. There was a slight recurrence in the right cuspid area after two weeks which disappeared in three days when the above treatment was resumed.

*Case 2.*—T. W., female, aged three, became suddenly ill with diarrhea, fever, general malaise, and marked redness and swelling of the gums. The gums presented the same picture of hypertrophy, edema, redness without ulceration, membrane, or erosion as in the above case. There was some redness of the throat and tongue. Complete physical examination was negative except for the condition of the mouth, a pulse of 110, temperature of 101.2°.

The mouth was washed out with peroxide three times a day and the gums irrigated with metaphen; a saline mouth wash was used frequently. There was a rapid response and the mouth was entirely well in six days. There was no recurrence.

*Case 3.*—A. W., male, aged thirty-two, father of patient in Case 2, became suddenly ill four days after the onset of this condition in the daughter. He had diarrhea, headache, general malaise, fever and anorexia, followed in twenty-four hours by rapid hypertrophy of the gums, a sticky stringy saliva, and marked pain and tenderness of all gum tissue.

Fowler's solution as a mouth wash gave no results after two days and he was seen at this time. The condition of the mouth was identical with that of Case 2. General examination was negative except for the

\*Read before the Section on Dermatology and Syphilology, Michigan State Medical Society, September, 1933.

†Dr. Woodburne is a member of the Kent County and Michigan State Medical Societies, a Fellow of the American Medical Association, and a licentiate of the American Board of Dermatology and Syphilology. He received his medical degree from the University of Michigan in 1927. He is consultant in Dermatology to the Blodgett Memorial Hospital and attending dermatologist to St. Mary's Hospital, Grand Rapids, Michigan.



pulse rate of 94 and the temperature of 100°.

The treatment was the same as that in Case 2 except that cauterization of the hypertrophic tissue with saturated solution of copper sulphate, and 7 per cent chromic acid was tried, but seemed to make the condition worse, ultra-violet light applied through a quartz rod also gave no definite improvement. Salicylates and alkalies internally gave considerable relief from the toxic manifestations. The gums became normal in about ten days and there was no recurrence.

### Discussion

Streptococcic hypertrophic gingivitis must surely be more common than one would expect from a review of the literature, in that we have seen these three cases within a period of three months. This group must be confused in most instances with the more chronic forms due to endocrine changes, trauma, or Vincent's infection.

The differential diagnosis should offer no difficulty when the major characteristics of this acute infection are kept in mind.

Hirschfeld<sup>1</sup> in an extensive article on hypertrophic gingivitis has given a review of the factors of malocclusion, torsion, crowns, et cetera, as an etiologic factor in the chronic cases. The case which he described as hypertrophy due to an atypical Vincent's infection might well have been a subacute streptococcic hypertrophic gingivitis since he makes no mention of loss of tissue which is usually characteristic of a Vincent's infection, and classified it thus because it cleared up under mild antiseptic medication, "with the rapidity characteristic of a Vincent's infection." It has been our experience that cases of streptococcic hypertrophic gingivitis respond in about one week, which is the usual period required in a Vincent's infection.

The differentiation from the chronic forms due to endocrine changes; mouth breathing, malocclusion, torsion, overhanging crowns, cavities, calculus and other irritating substances; scurvy, heavy metal poisonings, and leukemia is easily made on the history of an acute onset with the malaise, fever, et cetera, of an acute infection, the presence of the *Streptococcus viridans* in almost pure culture and the rapid response to gentle antiseptic medica-

tion. The more difficult differential diagnosis is the separation of streptococcic hypertrophic gingivitis from an acute Vincent's gingivitis. The hypertrophy, redness, malaise, fever, etc., may all be present in the Vincent's infection, but there is also usually ulceration, erosion or some loss of tissue along the gum margin.

Microscopic examination in the Vincent cases will show the usual numerous large spirochetes and fusiform bacilli, while in streptococcic hypertrophic gingivitis these are extremely rare, and culture will yield the characteristic organism, *Streptococcus viridans*.

Treatment besides the mild antiseptic medication as recommended should include after the acute symptoms have subsided a rigid oral prophylaxis and the elimination of all irritating factors such as abscessed teeth, irritating crowns, and fillings, the removal of partially impacted teeth, all of which may keep the resistance of the tissue lowered as well as retain the infective organisms which under proper conditions are apt to cause a recurrence of the infection or prevent a complete recovery. It is desirable that all other possible foci should be investigated and eliminated.

Strong antiseptic and caustic or stimulating medication such as copper sulphate, chromic acid, ultra-violet light, et cetera, which are frequently used in the Vincent's infection seem to be definitely contraindicated in the treatment of this condition since our cases became worse after their use. It is, therefore, our conclusion that we should attempt to prevent further damage by the organisms to the tissues and to destroy all possible organisms without damaging the resistance of the tissue, and that this should be by a conservative mild treatment. The internal medication of use in other acute infectious diseases seems to make the patient more comfortable and to shorten the course of the disease.

Since writing this paper we have seen two or three cases which were due to the hemolytic streptococcus which was not green producing, so that this condition can be produced by both the *Streptococcus viridans* and hemolytic streptococcus.

Another type of streptococcic lesion of the mouth is well illustrated by the two following cases.

Mr. W. W., aged forty, seen first with three large painful, superficially eroded, non-infiltrated,

patches of the buccal mucous membrane. These were covered by a white, or yellowish white, thin membrane which was easily wiped away. The surface beneath the membrane was raw and acutely inflamed. There were many fine hemorrhagic dots and vascular tufts seen over the base, and the surrounding mucous membrane was bright red.

Examination of the membrane and smears showed no fungi, fusiform bacilli or spirochetes but many cocci. Culture revealed a mixed growth of *Streptococcus viridans* and *Staphylococcus aureus*.

The condition responded promptly to 1/500 metaphen irrigations and saline mouth washes, but had progressed under anti-Vincent's treatment.

Miss S. M., aged thirty, was first seen with a painful, very superficial, eroded, non-infiltrated, patch of the mucous membrane back of the upper right third molar. This was diagnosed Vincent's infection and treatment instituted although spirochetes and fusiform bacilli were not found. The next day it had extended anteriorly along the gingival and buccal mucous membrane; more vigorous treatment caused no improvement and it had extended more widely on the third day with some swelling of the cheek. Smears and cultures at this time showed no fusiform bacilli or spirochetes but a growth of streptococci and staphylococci soon developed. A change to the treatment above caused the lesions to completely heal in three days.

The above cases illustrate lesions of the mouth which are as a rule diagnosed as Vincent's infection.

In our opinion the streptococcus is not considered sufficiently in the diagnosis of infectious lesions of the oral mucous membrane, and that more complete study of these cases will show that many which have been thrown into the "catch basket" of Vincent's infections, really have a streptococcal etiology.

Monilial infections of the mouth in adults are rarely seen and even by experienced men are often mistaken for carcinoma, leukoplakia, aphthous stomatitis, etc. The history of the following two cases is typical of these as we have seen them.

Mr. S. P. D., aged sixty-three, was referred to us by Dr. Ferris Smith about one year ago. He presented greyish patches of membrane involving the buccal mucous membrane of the cheeks, extending well back toward the anterior pillars. Through this membrane were seen many pin head to pea sized aphthous-like erosions which were tender to the touch. The base on which this membrane rested was brightly erythematous with a surrounding inflammatory zone. The membrane was pulled away without great difficulty. It involved areas of the gingival sulcus, the gum edges, under the tongue, and hard palate. In some areas, particularly over the crest of the edentulous ridges, the membrane was quite hypertrophic.

This was first noticed as sore areas in the mouth twelve years ago, shortly after the teeth were extracted. It was quite sore at times, but there were periods when it bothered him very little. During

the flare-up, there would frequently be some submaxillary gland enlargement and tenderness, with soreness of the neck and ears.

Regurgitation of sour material into the mouth occurred occasionally and this was usually followed by a period of reaction in the mouth.

He was seen nine years ago at the Mayo Clinic and a diagnosis of carcinoma was made at that time. Biopsy was taken and a cleanly healed scar is present. Flat radium plaques applied to the buccal mucous membrane caused a temporary improvement, but it recurred in three months.

A general physical examination was negative except for a senile pupillary arc and some tenderness over the gall-bladder region.

Fresh membrane was examined in 20 per cent sodium hydroxide solution and showed a few branching mycelia, many small fragments and spores. Methylene blue stain added nothing to the above findings. Culture on Sabouraud's medium developed a pure culture of *Monilia Albicans*. Biopsy of one of the hypertrophic areas shows leukoplakia and deep in the epithelium may be seen a few mycelia fragments.

We were familiar with the extreme resistance of this type of infection to treatment and the literature was carefully searched for new suggestions.

The various dyes were tried without improvement, x-ray gave no results, silver nitrate was recommended by some French observer and we have had fair results with it used in the form of the stick. Best results have been obtained by painting the area with Lugol's iodine twice a day and the cauterizing of the membrane with silver nitrate stick. Progress has been very slow, but he is much better now than at first. An acute attack seen a few days ago on the hard palate showed a diffuse erythema peppered with pin point sized dots of membrane.

Mr. E. P., aged thirty-six, presented a similar picture to the above, confined to the superior and inferior surfaces of the tip of the tongue. This had been present for two years, and a diagnosis of leukoplakia had been made by a competent dermatologist in Chicago. Because of the pearly white membrane under the tongue we felt that *Monilia* should be considered. Membrane examined in sodium hydroxide showed many mycelia and a pure culture of *Monilia Albicans* was grown.

Treatment with iodine and silver as above cleared up the subjective symptoms in two weeks, and the tongue was well to examination in one month.

The main points here in diagnosis are:

1. Inflammatory leukoplakic-like lesions frequently seen in areas where leukoplakia is not seen; i.e., under the tongue in gingival sulcus, et cetera.
2. Pearly white membrane, peels off fairly easily.
3. In the large patches may be seen small inflammatory erosions through the membrane.
4. Finding of mycelia by direct examination and culture.
5. Response to treatment.

Periadenitis mucosæ necrotica recurrens has been one of the rarer conditions of the mouth which has been very resistant to all forms of treatment. The results which we



have had in this case have been unusually good, and perhaps they may be of service to some in handling similar cases.

Miss H. S., aged twenty-one, seen first in July, 1932, presented several deep ulcers, the size of a split pea to that of a large bean, involving the right side of the soft palate, the tonsillar pillars, and the buccal mucous membrane. The ulcers had a brightly inflammatory border extending about 0.5 to 1 cm. and a bright hemorrhagic edge. They were filled with a dirty brownish-yellow necrotic material, which could be removed with difficulty. The base was brightly inflammatory and the vessels congested.

Thirty or forty smooth, very slightly contracted scars could be seen over the entire lingual and buccal surface. The tip of the uvula had sloughed away but it was now healed. The lesions first appeared at eleven years of age and continued to recur until the present time.

Any unusual mental effort, nervousness or worry would be followed by an attack of one or more new lesions. The attacks were not related to the menstrual periods and there had never been any lesions of the vulva or vagina. During the past year attacks have been so frequent that she has had hardly any period of complete freedom from lesions. The general health had always been good. General physical examination was entirely negative, the blood pressure 114 mm. of mercury systolic and 64 diastolic.

Following the suggestion of Perelstein<sup>3</sup> endocrine therapy was instituted. Whole pituitary was given by mouth and whole ovary by injection. Results were not satisfactory and calcium gluconate was added after six weeks. This seemed to help a little. She had had relief from neosarsphenamine given by another physician who considered these lesions to be luetic but they recurred shortly. We thought that perhaps it might be the arsenical effect and so started her on Fowler's solution in ascending doses, combined with the calcium. This gave immediate results and her mouth was well in three weeks.

She has been practically free of lesions now for nine months. On two occasions small ulcers have responded in one week to a resuming of the arsenic and calcium.

The patient has been, during the entire year, on a good general diet with cod-liver oil added during the winter. She has taught school for the first year, which was very tiring and made her nervous at times with only two mild recurrences as noted above.

The word *epulis* is used by the dental profession to mean a growth in the mouth, usually arising from the gums, roots of teeth, or jaw bones. I have seen the word used to describe so many lesions of the mouth that I began to investigate its proper use. Many pathological works, many dentists, and all available dermatologic texts, have been consulted with no adequate explanation; finally in Bunting's *Oral Pathology*, a brief classification was found and to our surprise it is used to refer to all benign and malignant growths of the gums, teeth, roots, and bone. Among the newer works, the term *epulis* is usually confined to the

benign giant cell sarcoma. Classified as we understand the lesions on the skin, they represent and should properly be classified as: hemangioma, lymphangioma, fibroma, lipoma, pyogenic granuloma, other benign epithelial hyperplasia, epithelioma, and sarcoma. This inquiry was started following the case on which we made a diagnosis of pyogenic granuloma. There was so much confusion in the discussion of this case over the term *epulis*, that I felt a clear understanding of its "catch basket" meaning might be of value. In the modern pathological conception of disease, the term no longer has a place and should be dropped from the nomenclature. Pyogenic granuloma is usually seen on the skin, but it should also be kept in mind in the differential diagnosis of new growths in the mouth, as is illustrated by the following case.

Miss K. R., aged thirty, was seen about one year ago with an oval, reddish, spongy, mushroom-like tumor arising from the right lower first molar tooth socket, and pushed up between and away from the crowns of the first and second molars. The tumor was of the typical bright red pedunculated, cauliflower-like tumor characteristic of a pyogenic granuloma. Because of the possibility of a periosteal sarcoma, the oral surgeon felt that the tooth should be removed. This was done and the tumor came out with the tooth. Its pedicle base was attached to the root. The socket was kept clean and healing was uneventful.

The pathological examination showed a pyogenic granuloma.

Electrogalvanic burns of the oral mucous membrane due to dental appliances of different electric potentiality were called to the attention of the profession about a year ago by Dr. Lain.<sup>2</sup> We have had the privilege of seeing a very typical case lately.

Miss C. A., aged twenty-six, was seen about six months ago with a complaint of tender areas in the right cheek. On examination she presented along the ridge of occlusion on the right side a few minute erosions with brightly inflamed bases, and about these involving the central portion of the buccal mucous membrane was a thick cobweb of superficial scars or leukoplakic-like areas. The upper teeth were entirely filled with gold and the lower with amalgam fillings. She is going to have the amalgam replaced and we feel sure that it will relieve her entirely.

*Note:* Since this paper was written the amalgam fillings have been entirely replaced, and the patient has no longer any trouble.

### Bibliography

1. Hirschfeld, Isador: Hypertrophic gingivitis . . . Its clinical aspect. *Jour. A. D. A.*, 19:799-816, (May) 1932.
2. Lain, E. S.: Electrogalvanic lesions of the oral cavity produced by metallic dentures. *Jour. A. M. A.*, 100: 717-720, (March 11) 1933.
3. Perelstein, M. O.: *Ulcus vulvæ acutum*. *Jour. A. M. A.*, 98:461-465, 1932.

## SICKLE-CELL ANEMIA: ETIOLOGY

## With Report of a Case

HAROLD A. ROBINSON, M.D.†  
DETROIT, MICHIGAN

The sickle cell has been receiving increasing attention and study in the past decade. This is due to more clinicians becoming sickle-cell minded, rather than to an increased incidence. Herrick, in 1910, described sickle-cell anemia and established it as a definite clinical entity. Mason, in 1922, gave us the name "sickle-cell anemia." Cooley and Lee, in 1925, gave us the name "sicklemia" to designate the existence of the sickle cell in the otherwise apparently normal individual. Hahn used the term "sickle-cell trait" for this condition. Brandau offered the following classification according to the present knowledge of the subject:

- I. Sickle-cell trait: healthy persons with sickling *in vitro*.
- II. Sickle-cell anemia:
  1. Latent: healthy persons who are subject to recurring periods of active sickle-cell anemia.
  2. Active:
    - a. Mild: slightly or moderately anemic patients with sickling *in vitro* or both *in vivo* and *in vitro*.
    - b. Severe: Patients with severe grades of anemia with sickling *in vivo* and *in vitro*.

A discussion of sickle-cell anemia will not be taken up here. An exhaustive study of the literature on the sickle cell is being made and will be reported later.

The following case is reported because of its interesting blood and clinical findings.

## Case Report

B. R., colored, male, aged twenty-one, born in Chattanooga, Tennessee, single, was first seen by me October 4, 1932. His complaint was sores on the right ankle.

*Past History:* Tonsillectomy and adenoidectomy was performed in April, 1925. Examination of the hospital record showed no blood study. Urine examination was done and recorded (included in laboratory data).

At fifteen years of age, he had pains and fluttering of heart. Since then he has had pain, fluttering, and skipped beats on exertion. He has frequent headaches. About three times a year he suffers severe headaches associated with vomiting. He has nocturia from two to three times a night. He has enuresis at times. Otherwise past history is negative by systems.

*Family History:* His father disappeared shortly after he was born and has not been heard from since. His mother and sister are living and well.

His sister is married and has a child five years of age. Examination of the blood of mother, sister, and her child show no evidence of the sickle-cell phenomenon. His mother knows nothing of his father's family.

*Occupation:* He has always worked as a shoe shiner and porter in a barber shop.

*Present Illness:* The patient states that as long as he can remember he has been weak, very thin, short of breath on exertion, and has always noticed that his sclerae were of a greenish hue. Since he was ten years of age he has had mild attacks of abdominal pains associated with joint pains. These attacks lasted for 3-4 days. In 1924 he had a severe attack of abdominal pain which was only relieved by morphine. He says that at this time he had pains in almost all the joints of the body. He was hospitalized for three weeks and discharged with a diagnosis of cardiac dilatation. Examination of hospital records shows no blood study. Urine examination was done and recorded (included in laboratory reports). Since then he has occasionally experienced mild abdominal pain associated with mild pain in one or two of the larger joints. In 1932 he had two sores on the medial aspect of the right ankle, associated with some swelling of the ankles after being up for some time. He was treated with ultraviolet light and ammoniated mercury ointment. The ulcers gradually healed in a few weeks. Examination of the clinic records where he was treated for the ulcers revealed no laboratory data except the blood Kahn test, which was reported negative. The sores for which he presented himself for treatment on October 4, 1932, had been present for four weeks and were progressively getting larger. These were very painful and associated with swelling of the ankles after being on his feet for any length of time. He also noticed increased weakness, dyspnea, and palpitation on exertion or climbing upstairs. He experienced mild abdominal distress at times with occasional pain in one or more joints, but never severe enough to seek relief.

*Physical Examination:* (October 4, 1932.) The patient was a young, tall, emaciated Negro, not appearing acutely ill or in any distress. He was 5 feet 10 inches in height, and weighed 100.2 pounds. His extremities were very long in proportion to his body. The skin was dry and intensely black. Although tall, he was of slight build, and his muscles were poorly developed. There was a generalized lymphadenopathy, the cervical, axillary, epitrochlear and inguinal nodes being palpable on both sides. The patient appeared somewhat younger than his stated age of twenty-one years, resembling more a youth of seventeen years. Mentally, the patient was bright, his mind being alert and active.

†Dr. Harold A. Robinson is a graduate of the University of Michigan Medical School, 1928. His specialty is internal medicine. He is a member of the Wayne County Medical Society and Michigan State Medical Society, Fellow of the American Medical Association, and Associate of the American College of Physicians. He is assistant in the Department of Internal Medicine at Eloise Hospital, and Associate Physician, Internal Medicine, North End Clinic.



His scalp was normal, covered by a thick growth of short kinky hair, although the beard was very scanty. The eyes protruded slightly, due to the emaciation. The pupils were equal and regular,

with clearly defined edge. There were no masses, tenderness, or rigidity in the abdomen.

The extremities were long and emaciated, and showed poorly developed musculature. There was a

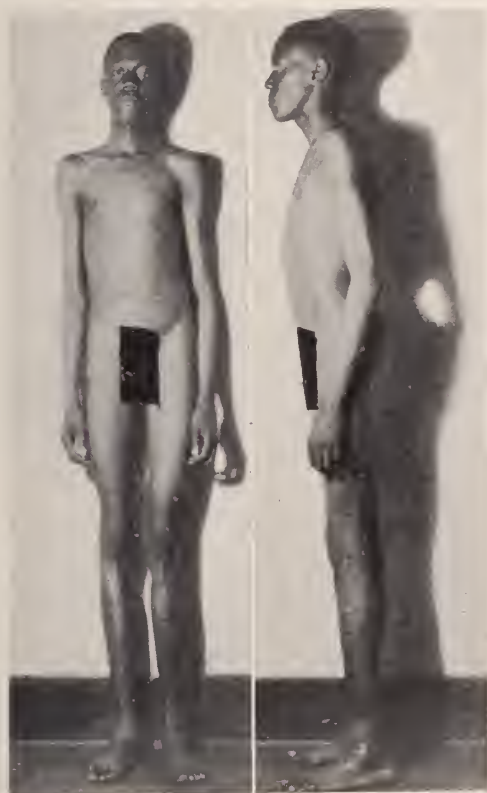


Fig. 1. Note the length of the extremities with their poor muscular development in proportion to the body, which is of slight build. The patient appears younger than stated age of twenty-one, although mentality is normal. The side view shows the projection of the upper abdomen due to the markedly enlarged liver. The ulceration and the varicosity of the left leg are plainly visible in the side view.

and reacted to light and in accommodation. The sclerae presented a peculiar greenish hue. The conjunctivae were very pale. The ears and nose were essentially normal except for the pallor of the mucous membranes of the nose. The teeth were in fairly good condition, but poorly kept. The mucous membrane of the mouth and pharynx showed a distinct pallor. The tonsils had been removed.

The pulsations of the great vessels of the neck were distinctly visible and synchronous with the heart beat. There was no evidence of enlargement of the thyroid.

There was moderate scoliosis and kyphosis with resultant distortion of the chest. There was equal expansion of both sides. The lungs were hyper-resonant. No râles were heard over both lung fields. There was a diffuse impulse which could be seen and felt over the cardiac area with each heart beat. The rate was 120 per minute. The blood pressure was 130 systolic and 65 diastolic. The heart was not enlarged to percussion. There were no murmurs audible.

The abdomen was enlarged and protruding in the upper right quadrant and mid-epigastrium, producing a flaring of the right costal margin. The liver dullness extended to a hand's breadth below the right costal margin. The liver was smooth



Fig. 2. The ulcerations of lateral aspect of the right leg. The smaller one is seen, although not in very good focus. The edema is shown by swelling above line of the bandage after removal. The skin is hard, wrinkled, and shows increased pigmentation around the ulcerations.

mild pitting edema of both ankles. There were two healed scars on the medial aspect of the right ankle. The lateral aspect presented two ulcerations. The larger one was 3 cm. in length and 1.5 cm. in width. It was oval in shape. The smaller one was round and 1 cm. in diameter. The ulcers appeared to be punched out with slightly rolled edges. The base was shallow, fairly clean with a mild amount of mucopurulent exudate, and having a white translucent appearance. There was no inflammatory reaction circumscribing the ulcerations. The skin around the ankle, and especially around the ulcerations and scars, was hard and wrinkled with a definite increase in pigmentation. There was a varicosity in the upper third of the left leg on its lateral aspect. The reflexes were present and normal.

The genito-urinary organs appeared normal. The pubic crines had a female distribution.

*Laboratory examination in chronological order:*

March 16, 1924: Urinalysis showed a specific gravity of 1.008, an acid reaction, a trace of albumin, a negative reaction for sugar, and numerous squamous epithelial cells in the sediment.

April 17, 1925: Urinalysis showed a specific gravity of 1.012, an acid reaction, a negative reaction for albumin and sugar, and no sediment.

March 21, 1931: Blood Kahn test showed a negative reaction.

October 4, 1932: Blood count: hemoglobin, 37 (Sahli); color index, .81; erythrocytes, 2,280,000; leukocytes, 12,900; polymorphonuclear neutrophils, 44 per cent; large mononuclears, 55 per cent; small mononuclears, 1 per cent; many poikilocytes; marked anisocytosis; sickle cells, 70 per cent in fresh preparation.

Urinalysis showed a dark amber color, specific gravity of 1.012, an acid reaction, a negative reaction for sugar, and a one plus reaction for albumin.

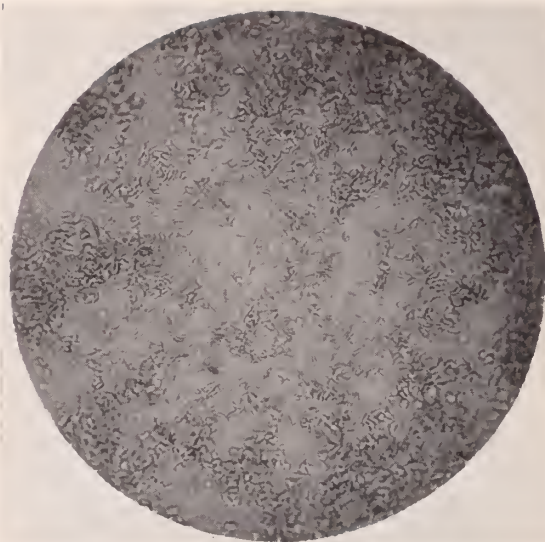


Fig. 3. Microphotograph of sealed preparation of blood after seven days. Note the large number of pencil and sickle-shaped cells. (Specimen of blood taken October 18, 1932.)

October 11, 1932: The blood Kahn test was reported negative. Examination of the blood showed: sugar 102.0 mg.; Van den Berg reaction was negative for the direct and positive for the indirect; icteric index, 33.4; coagulation time, three minutes; bleeding time, three and one-half minutes; cholesterol, 151.6 mg.; calcium, 9.2 mg.; inorganic phosphates, 5.43 mg. The glucose tolerance test with 100 gm. of dextrose given with lemon gave the following results: fasting, 85.8 mg.; one-half hour after dextrose, 143.8 mg.; two hours after dextrose, 118.4 mg.; three hours after dextrose, 81.0 mg.; urine, reaction for sugar was negative during this period. The phenolsulphonphthalein test of kidney function was reported: first hour, 60 per cent; second hour, 7.5 per cent; with a total of 67.5 per cent.

October 17, 1932: The patient was seen by Drs. Cooley and Lee in consultation, and the following is the report of the blood study made by Dr. Lee: "The colored boy whom you brought to the hospital on Monday had a very interesting blood picture. Our findings were as follows: fresh prepara-

tion, about 80 per cent showed immediate sickling of a very extreme form. After twenty-four hours, approximately 95 per cent were sickled. Blood count: hemoglobin, 90 per cent (13 gm. of hgb. per 100 c.c. blood); erythrocytes, 2,050,000; leukocytes, 11,700; polymorphonuclear neutrophils, 44 per cent; large lymphocytes, 16 per cent; small lymphocytes, 36 per cent; myelocytes, 4 per cent; anisocytosis, moderate; poikilocytosis, marked; there were many pencil shaped and sickle shaped cells on the smear; polychromatophilia, moderate; reticulated erythrocytes, 10 per cent; slight irregular achromia. This boy's red cell picture is rather unusual for a sickle-cell anemia in several respects: (1) there are no nucleated red cells, (2) the hemoglobin is unusually high for the red count, (3) a few pencil shaped cells are usually seen on the fixed smear, but the large number found here (approximately 40 per cent) is very rare, (4) the cells are well filled with hemoglobin, which, of course, explains the high color index. However, the typical red cell of sickle anemia shows a rather marked 'irregular achromia.'"

October 27, 1932: Because of the marked difference in hemoglobin reported, this was checked, and found to be 45 per cent.

November 3, 1932: Hemoglobin, 60 per cent; erythrocytes, 2,470,000; sickle cells approximately 50 per cent in the fresh preparation.

December 13, 1932: Roentgenograms taken were reported as follows: lateral view of the skull shows no changes or thickening or other evidence of the type usually seen in blood dyscrasia.

The long bones show some slight accentuation of the linear markings near the joint ends.

The pelvis shows no changes.

The spine of the lumbar vertebra is slightly decalcified. The sacrum also appears slightly decalcified, but the pelvis is of normal density. Some of the markings of the pelvis are slightly increased, similar to that of the long bones.

December 30, 1932: The patient was again seen by Dr. Lee and the following is her blood report at this time: "hemoglobin, 70 per cent (Sahli); or 10.1 gm.; erythrocytes, 2,170,000; leukocytes, 15,400; polymorphonuclear neutrophils, 50 per cent; large lymphocytes, 18 per cent; small lymphocytes, 30 per cent; eosinophiles, 2 per cent; polychromatophilia, marked; reticulated erythrocytes, 20 per cent; marked anisocytosis and poikilocytosis; achromia, slight and irregular; platelets, 250,000. About 50 per cent of pencil shaped cells were seen on the stained smear.

November 13, 1933: Hemoglobin, 59 per cent;

CHART I. SERIES OF BLOOD STUDIES BY DR. LEE. NO RESPONSE TO JECULIN.

Date	Hgb.	R. B. C. millions	W. B. C. thousands	P	LL	SL	B	E	Misc.	Polychromatophilia	Anisocytosis	Poikilocytosis	Ret. R. B. C.	Achromia	Platelets thousands	I
10-24-32	13.0	2.05	11.7	44	16	36	0	0	NM <sub>1</sub>	Mod.	Mod.	Marked	10.	Slight	300	I
12-29-32	10.1	2.17	15.4	50	18	30	0	2		Marked	Marked	Marked	20.	Slight	250	II
1-9-33	10.1	2.38	9.0	52	18	24	0	2	N <sub>2</sub> LM <sub>2</sub>	Marked	Marked	Marked	15.	Slight	300	
1-23-33	11.0	2.22	9.4	38	8	36	0	4	N <sub>2</sub> HH <sub>2</sub>	Marked	Marked	Marked	20.	Slight	300	
2-6-33	11.0	2.60	11.3	46	26	21	1	3	N <sub>1</sub> HH <sub>3</sub>	Marked	Mod.	Marked	30.	Slight	250	
2-20-33	10.5	2.20	12.0	54	16	24	0	4		Marked	Marked	Marked	20.	None	200	III
3-13-33	10.0	1.99	9.0	46	8	40	0	6		Marked	Marked	Marked	20.	Slight	200	

N=Normoblast NM=Neutrophilic Myelocyte HH=Hemohistioblast LM=Large Mono.

I. Fresh preparation—80 per cent extreme sickling within five minutes. Stained smear shows about 40 per cent pencil shaped and sickle shaped cells. The slight achromia is irregular in type.

II. Treatment with jeculin (Upjohn) instituted, two tablespoons four times a day.

III. Jeculin discontinued.



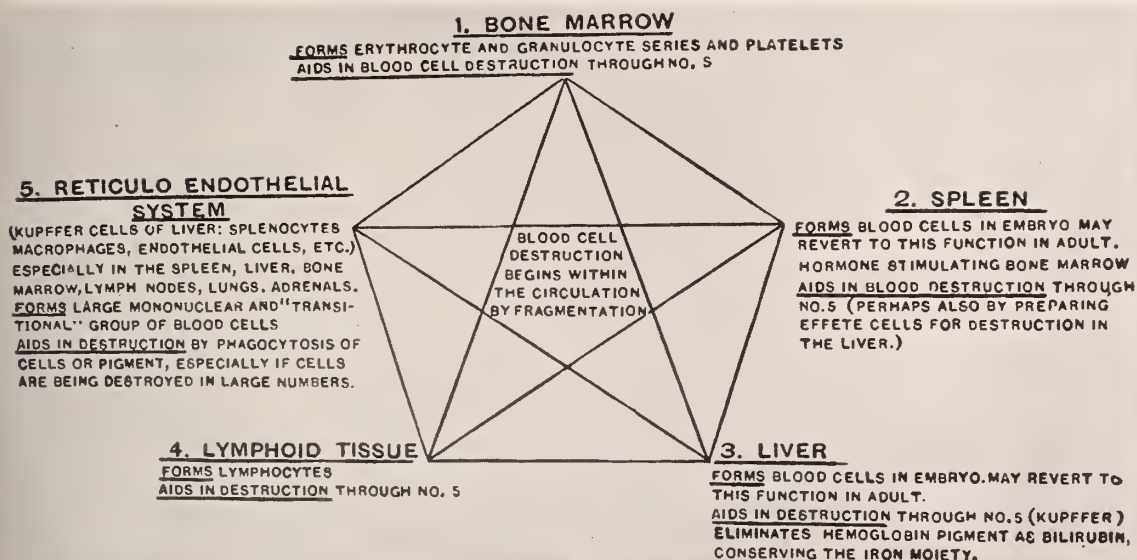


Fig. 4. Hemolytopoietic system. After Krumbhaar, E. B.: Am. Jour. Med. Sci., 166:329, 1923.

erythrocytes, 2,462,000; leukocytes, 12,100; color index, 1.2.

*Treatment and Progress:* The patient has been seen at frequent intervals and various forms of therapy have been tried. The ulcerations on the right leg slowly and gradually healed with periods of some retrogression. Following the healing of these ulcers after an interval of one month, there appeared a small ulceration on the lateral aspect of the left leg. The ulceration on the left leg gradually increased in size to almost that of the larger ulceration on the right leg and then slowly healed and at the present time shows a contracted healed scar with a crust over it.

The various forms of local therapy for the ulcerations instituted were wet boric acid dressings, Una's zinc plaster, tincture of merthiolate, thymol iodide, alcohol and iodine, ammoniated mercury ointment, and ultra-violet therapy. These forms of therapy appeared to have no effect on the course of the ulcer. The healing of the ulcer only occurred when the patient was forced to remain off his feet to reduce the edema and improve the circulation.

The systemic treatment was carried out with the various forms of therapies for anemia, but after prolonged studies with each one, there appeared to be no beneficial effects obtained as determined by blood studies. There was little or no change in the blood picture while under any one preparation for anemia (Chart I). He was treated with reduced iron, liver extract, Ventriculin and Jeculin. Blood studies made while under no medication showed the same results.

He was treated, in addition to the local therapy for the ulcerations and the various preparations for the anemia, by rest in bed, a high caloric anemia diet, forcing of fluids, vitamins, protection against infection of the respiratory system by clothing, etc., and mild stimulating exercises.

At the present time his condition and blood picture are the same as when first seen. His weight now is 110 pounds.

### Comment

It is interesting to note that the patient had been hospitalized twice and received

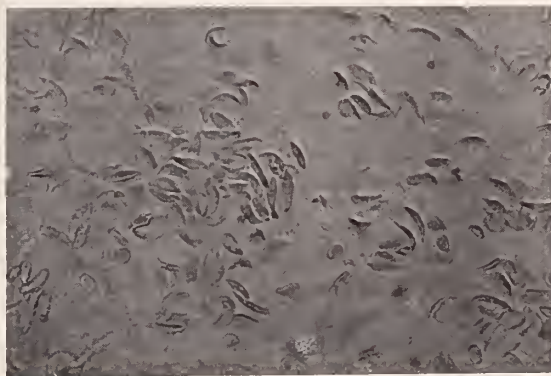


Fig. 5. Microphotograph of moist preparation taken November 14, 1933, showing characteristic bizarre and pointed forms.

treatment at a clinic without a single blood count having been taken. On two of these three occasions, he presented himself with symptoms of sickle-cell anemia and no attempt was made to determine their etiology! A plea is made here for the routine blood count of every patient presenting himself to the physician for care. The blood count would reveal the anemia, and in this case the sickle cells, and lead to further investigation. Sickle-cell anemia would not be so rare if clinicians became "sickle-cell" minded and made routine moist preparations of blood in all cases of unexplained hemolytic anemias.

An interesting feature of the adolescent and adult sickle-cell anemia patient is the increased length of the extremities in pro-

portion to the body. This sign is well borne out in the case presented here (Fig. 1).

The blood picture of this case report presents several unusual findings. The hemoglobin is unusually high for the red count due to the cells being well filled with hemoglobin (Chart I). The typical red cell of sickle-cell anemia shows a rather marked irregular achromia. The blood smears and fresh blood preparations show approximately fifty per cent of pencil shaped cells (Fig. 3). A few pencil shaped cells are usually seen, but the large number found here is very rare. There were no nucleated red blood cells found in all the studies made except on one occasion when one was found. There are usually a large number of nucleated red blood cells seen as evidence of their increased regeneration.

### Theory of Etiology

A study of the literature reveals many facts which can be correlated.

Sickle-cell anemia occurs in the Negro race. There are only two undisputed cases reported in the white race. The case of Cooley and Lee is in a Greek child. Rosenfeld's case is in an Italian. The other cases reported are eliminated as authentic cases of white people because of inconclusive evidence to eliminate the admixture of Negro blood or to conclusively establish the cells as sickle cells and not the "corps en demi-lune" of the French. The native Greek and Italian have moderately pigmented skins. This, then, would lead us to say that sickle-cell anemia occurs only in the moderately or highly pigmented skin races. What relation, then, has the pigmented skin to the sickle cell?

The morbid anatomy of sickle-cell anemia lies in the liver, bone marrow, spleen and lymph nodes. The liver shows an enormous increase in number and size of the Kupffer cells, laden with varying amounts of ingested sickle cells and pigmented granules. The polygonal cells exhibit a heavy deposit of amorphous brown pigment. The spleen shows marked congestion, enlarged malpighian follicles with some endothelial hyperplasia. The lymph glands show general hyperplasia distended with large mononuclears, plasma cells, lymphocytes, and pigment-laden macrophages. The bone marrow is rich in nucleated cells and shows hyperplasia, numerous erythroblastic and

leukoblastic islands, large numbers of polymorphonuclear neutrophils, eosinophils, pigment-laden macrophages, and megalokaryocytes.

By the reticulo-endothelial system or apparatus is meant the widespread cells of reticular or endothelial origin which possess a definite and marked phagocytic ability. Jaffé has shown that they are functionally significant as the Kuffer cells of the liver and the pulp cells (splenocytes) of the spleen in the endothelium of spleen, lymph nodes, bone marrow, and adrenal, and in the reticulum of the spleen, lymph nodes of the bone marrow, etc., and a steadily accumulating mass of evidence is forcing recognition of a definitely indicated assumption that the bone marrow, spleen, lymph nodes, liver, and the whole reticulo-endothelial apparatus must be considered as definite a mechanism for the control of the cellular elements of the blood as the digestive or endocrine systems are in their respective spheres. Krumbhaar has indicated in Figure 4 the interlocking relation of the various factors concerned in the formation, destruction, and regeneration of the blood.

The decrease in number of red blood cells and the increased excretion of urobilin are generally considered evidence of blood destruction, which is thought to result chiefly from the activity of the reticulo-endothelial system in the spleen, hemolymph-nodes, bone marrow, and liver (Peabody and Broun), or from fragmentation (Rous).

A study of the morbid anatomy of sickle-cell anemia reveals to us a hyperplasia or over-activity of the cells of the reticulo-endothelial system. We can then assume that this pathologically increased activity of the reticulo-endothelial system is responsible for the hemolytic anemia, and in some way affects the morphology of the red blood cell, producing the sickle cell.

Since the reticulo-endothelial system plays a big part in pigment metabolism, it is reasonable to assume that if there did occur any pathology to this system, it would occur in those individuals in whom there is a demand for increased pigment metabolism, namely, the Negro and the moderately pigmented skin races.

With the correlation of the above facts and their logical association, we are led to present the theory that sickle-cell anemia has its etiology in the reticulo-endothelial



system. Whether this etiology lies primarily in the abnormal function of the reticulo-endothelial system or whether it is secondary to some other factor, we are unable to say.

### Summary

1. An interesting case of sickle-cell anemia is presented here.

2. The blood picture is interesting because of the high color index, the large number of pencil shaped cells, and the absence of nucleated red cells.

3. In sickle-cell anemia patients who reach adolescent or adult life, a significant sign is the long extremities in relation to the body.

4. A thought is presented here for consideration. The reticulo-endothelial system is primarily or secondarily the etiological factor in the production of sickle-cell anemia.

Appreciation is expressed to Dr. Pearl Lee for her kind assistance and blood studies which are herein recorded.

### Bibliography

- Brandau, G. M.: Sickle-cell anemia. *Arch. Int. Med.*, 50: 635, 1932.
- Cook, J. E., and Meyer, J.: Severe anemia with remarkable elongated and sickle-shaped red blood cells and chronic leg ulcers. *Arch. Int. Med.*, 16:644, (October) 1915.
- Cooley, T. B., and Lee, Pearl: The sickle-cell phenomenon. *Am. Jour. Dis. Child.*, 32:334, 1926.
- Cooley, T. B., and Lee, P.: Sickle-cell anemia in a Greek family. *Am. Jour. Dis. Child.*, 38:103, (July) 1929.
- Hahn, E. V., and Gillespie, E. B.: Sickle-cell anemia: Report of a case greatly improved by splenectomy, experimental study of sickle-cell formation. *Arch. Int. Med.*, 39:233, (February) 1927.
- Hahn, E. V.: Sickle-cell (drepanocytic) anemia, with report of a second case successfully treated by splenectomy and further observations on the mechanism of sickle-cell formation. *Am. Jour. Med. Sci.*, 175:206, (February) 1928.
- Herrick, J. B.: Peculiar elongated and sickle-shaped red blood corpuscles in a case of severe anemia. *Arch. Int. Med.*, 6:517, (November) 1910.
- Jaffe, R. H.: Theory of reticulated cells. *Wien. klin. Wchnschr.*, 35:323, (April 6) 1922.
- Krumbhaar, E. B.: The hemolytotoxic system in the primary anemias with a further note on the value of splenectomy. *Am. Jour. Med. Sci.*, 166:329, 1923.
- Krumbhaar, E. B., and Chanutin, A.: Studies on experimental plethora in dogs and rabbits. *Jour. Exper. Med.*, 35:847, 1922.
- Mason, V. R.: Sickle-cell anemia. *Jour. A. M. A.*, 79:1318, 1922.
- Rosenfeld, S., and Pincus, J. B.: The occurrence of sickleemia in the white race. *Am. Jour. Med. Sci.*, 728:674, 1932.
- Washburn, R. E.: Peculiar elongated and sickle-shaped red blood corpuscles in a case of severe anemia. *Virginia Med. Semi-Month.*, 15:49, 1911.

### SPECIFIC DIAGNOSIS AND TREATMENT OF ALLERGIC DISEASES OF SKIN: PRESENT STATUS

Arthur F. Coca, Pearl River, N. Y., states that the formulation of the problems of allergy, as well as the practical diagnosis and treatment of allergic diseases, requires the tentative classification of these conditions. In atopic eczema the excitants are antigens, i.e., produce antibodies (reagins), whereas in contact dermatitis they are nonantigens; i.e., no antibodies can be demonstrated. The skin test in the inherited atopic eczema is made with aqueous extracts with the scratch method or by intracutaneous injection, whereas that in contact dermatitis is best made with an original raw material by surface contact (the patch test). This original material, if it is a fluid, may have to be diluted. It is not necessary to use an extract of the solid materials. One has no choice in the selection of the technic of skin testing in these two categories, because the patch test with aqueous extracts regularly results negatively in the familial allergies while the intracutaneous and scratch tests are often negative with the extracts in contact dermatitis. In the case of the vegetable oils, the treatment of contact dermatitis by desensitization, when avoidance is impossible, is usually successful; this stands in marked contrast to the experience, up to the present time, in the similar treatment of contact dermatitis due to excitants other than the vegetable oils. In atopic eczema due to a food, on the other hand, the results of injections have been disappointing. In order to test and treat intelligently these conditions, the physician must first determine, if possible, to which group his pa-

tient belongs. The specific diagnosis and treatment of atopic eczema has been in many cases disappointing. However, this experience is not different from that commonly encountered in the study of bronchial asthma and to some extent also in hay fever subjects. Instances have been reported that suggest, like some cases of bronchial asthma, that atopic eczema may sometimes be of infectious origin and not due to a sensitivity to a specific excitant mediated by reagins. Again atopic eczema may sometimes be due to specific sensitivity to inhaled substances. Practical handling of a certain number of cases of contact dermatitis from plants and of the allergic manifestations of fungous infections has been improved through two different influences. The diagnosis of contact dermatitis has been facilitated by the recent greater employment of Jadassohn's surface or patch test, and the proper manner of applying specific treatment of this condition has been indicated through the demonstration that the excitant of contact dermatitis in ragweed pollen is not the antigenic atopen that excites hay fever but an oily substance. This oil has since been found to be as abundant in the ragweed leaf as it is in the pollen. The weekly intramuscular injection of 0.5 c.c. of a 1 per cent solution of the extracted oily substance dissolved in sterile almond oil has in a number of cases brought quick healing, and protection on subsequent natural exposure. The second suggestion is that of Sulzberger, who points out that the allergic excitant of Monilia (Oidium) is specifically different from that of the trichophyton group and has materially broadened the range of effectiveness of the desensitization treatment of some cases of obstinate fungous infection, for which there seems to be no other means of relief.—(*Journal A. M. A.*, Oct. 27, 1934.)

# THE JOURNAL

OF THE

## *Michigan State Medical Society*

### PUBLICATION COMMITTEE

J. EARL MCINTYRE, M.D., Chairman.....Lansing  
A. S. BRUNK, M.D.....Detroit  
HOWARD H. CUMMINGS, M.D.....Ann Arbor

### Editor

J. H. DEMPSTER, B.A., M.D.  
5761 Stanton Avenue, Detroit, Michigan

### Business Manager

B. R. CORBUS, M.D.  
2642 University Avenue, St. Paul, Minnesota, and  
313 Metz Building, Grand Rapids, Michigan

JUNE, 1935

## EDITORIAL

### POST-GRADUATE MEDICINE

The profession may well look with satisfaction upon the advancement being made in post-graduate medicine in this state. The movement initiated by our society soon after the war, and fostered and approved by it since then, is now offering unprecedented opportunities for definite and real improvement in our education. A number of years ago we asked the University to assume the leadership and direction of this program. A department of Post-Graduate Medicine was instituted with Dr. James D. Bruce in charge, who accepted the responsibility with the understanding that the State Society and the Detroit College of Medicine (now Wayne University) coöperate and lend their wholehearted support. We thus have had the three organizations working to the same purpose and the results have been little short of astonishing. Today we are offered such opportunities in education that scarcely would have been thought possible a few years ago. And best of all the response to these offerings has been more than we could have hoped for. The attendance at the courses has already reached large proportions and the enthusiasm is real and very great.

With the State University and Wayne University turning out graduates that are better prepared, and with the post-graduate opportunities that are being offered and ac-

cepted, things indeed look bright for the future of medical practice in Michigan. It means better service to the public, greater satisfaction to the doctor, and an increased respect for our profession. There is no royal road to success in medicine. Character and a determination to serve well are, of course, essential, but in addition we must have modern knowledge of our science and the ability to apply it. With these we may attain that joy of living which is the natural reward to men who are performing well, essential and difficult service.

*Richard A. Smith*

President, Michigan State Medical Society.

### FEVER THERAPY

Treatment of certain disease conditions by means of elevation of the temperature of the body or some portion of the body is not entirely new. In 1918, Wagner-Jauregg noticed that tabetic patients who had contracted malaria were either cured or improved so far as their neuro-syphilis was concerned. His observation led to the inoculation of such patients with the plasmodium of malaria so that since this time the malaria treatment of general paresis has become a settled practice particularly in institutions. Fever therapy is based on the principle that certain micro-organisms have a thermal lethal point which is low enough so that raising the body above this temperature will not injure the body tissues. The induction of malaria produces certain discomforts besides those produced by the elevation of temperature. Various mechanical devices in the way of apparatus have been tried for the purpose of elevating the body temperature from without. The temperature produced by malaria results from the reaction of the tissues to the disease itself.

Among the conditions that have been treated by fever therapy, in addition to syphilis, are gonorrhea and chronic infectious arthritis. Satisfactory results are being reported in gonorrheal infections and complications which include prostatitis, salpingitis, and periurethritis as well as cervicitis and urethritis. Research workers have found that ninety-nine per cent of the gonococci can be killed *in vitro* in five hours at a temperature of 105.8° F.; in the treat-



ment of patients a temperature of 106° to 107° F. was used for periods of five to eight hours. In chronic infectious arthritis a temperature of 104° to 105° F. was maintained over a period of five hours with a course of three to six treatments.

An apparatus designed by Mr. Charles Kettering of General Motors fame is being used in a number of hospitals, particularly in hospitals connected with medical schools. We might add that from the very cumbersome nature of the apparatus fever treatment will be institutional rather than a form of therapy that can be carried out satisfactorily in the office of a physician. The Kettering apparatus known as the air-conditioned hypertherm consists of a large insulated horizontal chamber in which the patient is completely inclosed except the head. The patient lies comfortably on a pneumatic mattress and can shift his position at will within this chamber. Adequate provision is made for the regulation of temperature and humidity. Nicety of control is one of the distinctive features of the apparatus. The treatment is given by specially trained nurse technicians under the supervision of physicians. There are certain contra-indications which we will not mention here. The subject of fever therapy is being handled cautiously by competent clinicians who are equally cautious in their claims. This is as it should be.

We shall await with interest the published results of this, which bids to be a successful method of treatment in properly selected cases.

### MEDICAL ECONOMICS

Political Economy and Economics have been called the dismal sciences. We sometimes wonder how scientific they really are. Economics has been defined as "the science that investigates the conditions and laws affecting the production, distribution, and consumption of wealth or the material means of satisfying human desires" (the latest edition of Webster). It is not science in the same sense as the physical sciences, physics and chemistry, inasmuch as viewpoint plays an important part, namely whether the attitude is that of the rugged individualist, the *laissez faire* type found in Adam Smith of Wealth of Nations fame or in Robert Owen, the founder of socialism, or all viewpoints in between. The social sciences so-called are to a large extent text-

book sciences inasmuch as it is nearly impossible to create laboratory conditions for social experiment. Perhaps in our criticism of economic theory, we have in mind the economics of yesterday. The theory changes to fit the facts and popular attitude towards them. The change in economic outlook may be taken as evidence that economics concerns living things rather than phenomena of inanimate nature.

Medical Economics is a comparatively recent term, born since the war, really assuming importance during the depression years. Under the title Economic Problems of Medicine,\* Dr. A. C. Christie of Washington, D. C., has produced a small volume of 230 pages in which he has discussed almost every phase of the subject as it pertains to medicine. Ethics, economics and sociology, according to Christie, are so closely interrelated under conditions that prevail in modern life that they cannot be separated in a discussion of any one of them. Accordingly he prefaces the subject with a chapter on Medical Ethics in relation to Medical Economics. The chapter is full of good advice on the subject of the physician's duty to his patient, to his fellow practitioner, to his family and to himself.

The United States has seventy-seven approved medical colleges and Canada ten graduating approximately five thousand new doctors every year. The number of new graduates licensed in excess of the death rate of those already in practice is between sixteen hundred and eighteen hundred. There is at present one physician to seven hundred and eighty of a population. The conclusion of the commission on medical education is that adequate medical service could be rendered by twenty-five thousand fewer physicians than we have at present, which would mean the ratio of one to twelve hundred population. One method to control the output of medical graduates is to limit the admissions to medical colleges and to exercise greater caution in granting licenses to graduates of the few remaining unapproved medical schools. The control of entrants to the medical profession is one of the medical socio-economic problems.

\*ECONOMIC PROBLEMS OF MEDICINE. By A. C. Christie, M.S., M.D. Professor of Clinical Radiology, Georgetown University Medical School; President, Fifth International Congress of Radiology; Formerly President of the Medical Society of the District of Columbia, The American Roentgen Ray Society, The American College of Radiology, and Member of the Committee on the Costs of Medical Care. New York, The MacMillan Company, 1935.

The development of medical science and the advances in medical education during the past quarter of a century, while productive of results that have been almost revolutionary in a good sense, have not been without their sinister side. The training the physician has received has made him dependent upon the hospital, the modern x-ray and clinical laboratory and the electrocardiograph; as a consequence of which training, there has been a tendency to locate in large cities where such things are easily accessible. To quote the author, "It is quite generally agreed that the emphasis in medical education must be so placed that good clinicians will be produced, men who are able to deal adequately with the eighty or ninety per cent of illnesses for which they are consulted which require no special facilities beyond those possessed by a well trained general practitioner."

Many plans of medical service which have been worked out by County Medical Societies are presented; among them is described the Wayne County plan of deferred payments for medical, surgical and hospital care to employed persons and their families. The author realizes that a problem so complicated as that of medical care broad as society itself, is not readily fitted into any one plan. From the very nature of the subject the detail solution rests with county medical societies which are closest to the work to be accomplished. State and National Medical Societies can assist with the broader aspects. We have, therefore, a strong argument for an alert, virile county society.

Among the other problems discussed are the physician and the hospital, the relation of the physician to medical organizations, medical care under workmen's compensation laws, health insurance, industrial medicine, contact practice, health insurance as a solution to the problem of medical care. All these subjects are of a more or less controversial character. Members of the profession cannot help but feel somewhat strongly where their means of livelihood is at stake. However, Christie's whole attitude shows none of the emotional bias that occasionally characterizes such discussions. He has had exceptional opportunities for the study he has undertaken, in the fact that he was a member of the Committee on the Costs of Medical Care.

## THE VALUE OF GOOD WILL

Some of the changes that have taken place in medical practice during the past twenty-five years have been extremely desirable. Every physician has welcomed that due to preventive medicine. No person nor institution has been a greater factor in bringing it about than he himself. He looks upon it as one of his triumphs even though it has meant that such diseases as typhoid and diphtheria are removed from the scope of his service.

Within the time mentioned, all over the United States, have been enacted Workmen's Compensation Laws whereby the employer is made responsible for accidents to persons employed by him. The idea is reasonable since persons so incapacitated might become public charges. The employer exercised the usual prerogative in case of risk, namely, insurance with one of the numerous companies that have sprung up for the purpose. The insurance companies almost immediately began to interfere with the time honored right and privilege of the injured workman to employ the doctor of his choice. This has also interfered to a large extent with physicians' legitimate field of practice. One would think that in a complex society where everyone is to a certain extent dependent upon everyone else, the industrialist would spread his accident work among the entire medical profession or those willing and competent to undertake it. The act would not only promote a feeling of good will between physician and industry, it would help the physician to purchase the products of industry. In other words, it would be fair play. In the case of public service corporations, the physician has no alternative but to use their service, telephone, electricity, gas, and yet almost an army of employes is taken out of his practice and their medical requirements in the way of service met by other hired employes of the companies, or corporations. In other words, large sections of medical practice are being controlled by laymen.

There seems no good reason why accidents arising out of industry could not be cared for adequately by the physician in general practice. If he is qualified to set a fracture or to reduce a dislocation for the wife and daughter in domestic life, surely he is qualified to perform the same service



for the husband and son in the factory. In fact, factory or shop accidents are only about fifty per cent of the accidents that take place in homes. According to the National Safety Council, thirty-three thousand deaths resulted from accidents in homes in 1934, as compared with 15,500 fatalities in occupations. Accidents in homes were set at 4,800,000 as compared with 1,350,000 in industry. Accidents in homes were caused for the most part by falling, due to poorly lighted stairways and cellars, as well as contact with electrical and other appliances in the home.

Most industrial surgery is simple surgery. Much of it comes under the category of minor surgery. It differs from other forms of surgery in the fact that the injury is already before one, awaiting the necessary operations to facilitate repair. In general surgery the operator must first produce an "injury" before he can gain access to the organ in which the pathology is located; many of these operations require a supertechnic as well as diagnostic judgment of a high order. This statement is not to be understood to minimize the importance of the treatment of injuries. If, however, the general practitioner is competent to perform this service for the non-industrial population, the part of the family who is not gainfully employed, he is surely competent to render similar service to employed persons.

It would seem a matter of sound policy if the various industries would seek the good will of the medical profession as a whole by insisting that all industrial accidents be treated by physicians willing to undertake it. The only provision should be competency to do the work and a disposition *to play fair with both the patient and the company*. This does not mean that insurance companies necessarily abolish their medical departments. The injured workman should be free to make use of them if it is his desire as he should be free also to consult any licensed and qualified physician of his choice.

If health insurance should become the order of the day, and should come under lay control, it does not take much imagination to anticipate what would become of a large portion of the medical profession so far as this means of livelihood is concerned.

## A POPULAR PROFESSION

The State Board number (April 27th) of the Journal of the American Medical Association reports that the files of the Association of American Medical Colleges contain nearly one hundred thousand records of applications made during the years 1932 to 1934, inclusive, for the study of medicine. So eager were a number of these applicants whose pre-medical education had been found deficient, that they have gone abroad to European schools. Remarkable is the fact that seventy-nine of them who were denied admission to American medical schools have enrolled in an extra-mural medical school in Glasgow, Scotland. We do not know what extra-mural medical schools are; evidently they teach medicine by correspondence. It may be that this group of nearly four score do not look forward to practicing medicine. If not, then the fact of their extra-mural study is of no consequence to any but themselves. It is reasonable that one might pursue a course in law without any thought of practice; as a liberal education, a degree from a law school is as good as a degree in liberal arts. The same is true of engineering. Medicine, however, is in a different category. The demands upon one's time and resources, financial and other, are so great that we cannot imagine one entering upon a study of medicine who does not look forward to a medical career.

All medical schools are deluged with applications notwithstanding the fact that, according to the commission on medical education, there are already twenty-five per cent too many men engaged in medical practice in this country. In spite of judicious selection of applicants, ten to fifteen per cent of those accepted failed in their first year. Many physicians who are consulted by aspirants to the medicine are wont to discourage them. Advice should be given with discrimination. Many persons seek medicine or nursing through a desire to be of service to the sick. The willingness to be of service is seen in the attitude of the laity who go out of their way to pass on advice or remedies from which they feel they have received benefit. Where one finds that altruistic urge combined with superior intelligence and mental ability, the young medical aspirant should be encouraged, if he is financially able to meet the cost of medical education.

## A MOMENT OF MEDICAL HISTORY

W. T. D.

### MICROSCOPICAL TECHNIC

To acquire its present status, microscopy has advanced through four stages of development, and, in its progress, the field of microscopical study is as much indebted to technical methods for the preparation of material as it is to the optical properties of the microscope itself. In the period before achromatic lenses, the microscope, as an instrument, was inferior, and the technical methods which accompanied its use were simple. This was the pioneer stage of microscopy. The second period extended from the introduction of the achromatic microscope to the development of successful methods of sectioning and staining tissues. The third stage involved the standardization of sectioning and staining technics during and subsequent to the latter quarter of the nineteenth century. Finally, a fourth stage may be said to coincide with the discovery of methods for studying living tissues.

The pioneer microscopists of the seventeenth and eighteenth centuries, using simple lenses or compound microscopes of low magnifying power, were confronted on every side with convenient objects for study: leaves, parts of flowers, crystals and other inorganic substances, hairs, scrapings of tissues, small insects and minute aquatic forms. Ordinarily, these objects were simply placed before the lenses and studied without preparation. The difficult problems for the microscopist were those of acquiring sufficient light for his preparations and of finding methods for holding and adjusting objects in front of the lenses. The preparation of the object was thus secondary to the more important problem. Most early studies were concerned merely with the surface appearance of objects viewed by reflected light. With the use of transmitted light early in the eighteenth century, however, more profound observations were permitted.

Microscopists studied their specimens in an aqueous medium or as dry preparations.

Fluids were placed in small glass tubes, between glass plates or in small concavities ground into glass plates. Sections of tissues, after excision with a razor, were studied immediately on removal or after a period of hours or days of drying. Robert Hooke developed a technic of compressing tissues between two glass plates for study.

Though methods were simple, they frequently required extreme skill. Fine dissections of insects and other small forms by Swammerdam and Malpighi, as well as injected preparations, represented the most intricate phases of microscopic work. Some of Swammerdam's demonstrations were treated with alcohol or turpentine, but other agents do not seem to have been used. Various chemicals came into use during the later eighteenth and early nineteenth centuries: acids for the decalcification of bone, alkalis for the maceration of tissue elements, and chemicals, such as acetic acid, which changed the optical properties of tissue.

With the introduction of the achromatic microscope in the third quarter of the nineteenth century came a tremendous acceleration in the activity of microscopists. The old technics of teasing, maceration and compressing tissues were developed to their utmost. Of the newer technics devised, the most significant were the introduction of fluid media in which specimens could be studied, the development of technics for preserving tissues by chemicals and the perfecting of devices for sectioning tissues.

In the earlier period, fresh tissues were studied in water or, more rarely, in salt solutions or albuminous media. Dried tissues were studied as they were. These two types of preparations were known as "moist" or as "hard." Sometime during the early nineteenth century, glycerine came into use as an alternate medium for moist preparations, and, in a short time, it became, because of its refractive properties, the most widely used medium for microscopic material. Specimens were included in a concavity on a glass slide with a quantity of glycerine or were put into a shallow cell mounted on a slide. A cover slip of thin glass or mica was sealed in place with wax or varnish. Other mounting media were gelatine, sugar solutions and gum arabic. Combinations of glycerine and gelatine (glycerine jelly) and glycerine and



gum arabic (Farrant's solution) were common.

Hard or dried material received other treatment. Such specimens were ordinarily covered with varnish or resins, such as copal and damar. Canada balsam was used as early as 1832 for this purpose. Although Lockhart Clarke (1851) devised a technic for treating moist nerve tissues with absolute alcohol, then turpentine and, finally, mounting the tissue in balsam, this technic did not come into general use for more than twenty years. The two methods, balsam for hard material and glycerine for moist, remained standard until nearly 1800.

The development of conserving fluids was a still more important advance during the early nineteenth century. In 1839, Goadby introduced his "universal" preserving fluid for microscopic work. It consisted essentially of a very dilute solution (1 per 10,000) of mercuric sublimate. Other workers varied the amount of mercury and added various reagents, such as alum, salt and glycerine. Within thirty years, many other agents came into use, such as creosote, carbolic acid, camphor and dilute alcohol. Numerous salt solutions, such as calcium chloride, potassium carbonate and sodium sulphate, were likewise tried. The most important salts with conserving properties, however, were chromic acid (1840, Hannover), potassium dichromate (in Müller's fluid, about 1850) and osmic acid (1866, Max Schultze).

Such salts as the above came to be prized not only for their conserving properties, but also for their effect in hardening tissues. It was found that tissues which were subjected to such hardening agents could be handled with little danger of distorting tissue elements. This was particularly important in the cutting of thin sections. Without hardening, tissues crumpled or tore. Other hardening and preserving solutions were picric acid (late 1860's), platinum chloride (1870) and saturated mercuric sublimate (1878).

Sectioning, the third significant advance in microtechnic before the last quarter of the nineteenth century, is, to a great extent, tied up with the use of hardening agents. From the early period of microscopy, investigators shaved sections from chunks of animal and plant tissues. Woody tissues were routinely subjected to the technic and

cartilaginous and horny substances were equally well adapted to sectioning. The yielding character of most animal tissues, however, limited the technic to a minor field of use. An outstanding example of the simple hand sectioning of tissues is represented by von Baer's studies of embryology.

Various instruments were developed to facilitate the cutting of tissues, and, of these, the Valentine knife was most important. This instrument, which was shaped like tweezers, had two flattened parallel blades sharpened to a razor edge. By a screw adjustment on the handle, the space between the two blades could be controlled to a minute degree. To make a section, the double-bladed knife was plunged into or drawn across the tissue, a thin section remaining between the blades. A section so obtained, when floated on a slide with water or glycerine, could then be studied.

Another device used occasionally was the "section cutting machine." This instrument in its hand and table forms was adapted to holding a tissue while sections could be cut by hand with a razor. Though section cutting machines were frequently used by botanists, they were usually unsatisfactory for animal tissues. The procedure of hardening tissues by chemicals during the mid-nineteenth century, however, extended the range of the section cutting machine. Commonly, an animal tissue after hardening was surrounded by elder pitch or was placed in a hollow between slices of raw carrot or potato. The vegetable tissue supported the preparations and allowed better sections to be made. During the 1850's, molten paraffin was poured around the tissue, so that on solidifying, it supported the material for sectioning. Glue and gelatine mixtures, gum arabic and mixtures of wax and oil were likewise used. The technic of surrounding tissues for sectioning made section cutting machines more practical, and a hand device known as the Ranvier microtome came into extensive use. This device was essentially the same as those of the preceding hundred years. Along with the Ranvier instrument, other embedding media came into use during the 1870's. There were transparent soap, mixtures of paraffin and spermaceti, and celloidin (Schiefferdecker, 1876, and Duval, 1879). It was at this same period that the freezing microtome came into use.

The earlier models of this instrument consisted of a Ranvier type of instrument surrounded by a freezing chamber for salt and ice. Tissues could thus be frozen in an ice matrix for sectioning. About 1890, compressed carbonic gas came into use as a material for freezing tissues.

The third great period of microscopy coincided with the development of the basic knowledge on tissue and cell structure, embryology, bacteriology and cell pathology. Essentially modern methods of study began to appear at this time, beginning about 1870.

In 1868, the Rivet microtome appeared in France as the antecedent of modern microtomes. Unlike the earlier devices for sectioning, this machine was characterized by three important factors: a device for holding and orienting embedded tissue, a holder maintaining in position a microtome knife and an inclined plane mechanism for raising the tissue a measured amount. The instrument was made of wood. In 1870, a modification of the Rivet microtome appeared in Germany as the Leyser microtome, an instrument made of metal. This was soon followed by other models, such as the Jung and Thoma types. During the 1870's and early 1880's, many varieties of microtomes came into use, and, in a number of these, the inclined plane method of raising the object was supplanted by a screw mechanism. The automatic wheel or rotary microtome appeared in 1886 as the invention of G. Ballzer, the instrument maker of Carl Ludwig. This instrument was subsequently improved by Spalteholz, William His and Charles Minot. In contrast to the Rivet or sliding type of microtome, the knife was held rigidly and the object moved across the knife by a mechanism driven by a wheel or crank. With this instrument, paraffin sections adhered to one another to produce a continuous ribbon. In 1896, Minot introduced the automatic precision microtome with which sections of even and exact thickness could be produced. All modern microtomes are modifications of the Rivet, rotary or precision types.

The progress of sectioning methods was as much dependent upon improved embedding methods as upon the microtome. So-called interstitial embedding came to supplant the procedure of simply surrounding tissues in a homogeneous solid. In this method, all the interstices of a tissue as

well as the interior of cells were infiltrated with embedding material. In order to infiltrate tissues with paraffin or waxy materials, the water had to be replaced by a fluid medium miscible with wax. In 1881, Giesbriht introduced a technic of soaking a tissue in absolute alcohol in order to remove the water. The tissue was then immersed for a time in chloroform and finally infiltrated with melted paraffin. When the paraffin had penetrated all parts of the tissue, it was cooled and the permeated tissue was sectioned without distortion. Simultaneously, Schiefferdecker developed methods of infiltrating with celloidin. Tissues subjected to interstitial embedding were free from water and could be mounted in Canada balsam. The old method of mounting moist preparations in glycerine was thus superseded.

With interstitial embedding, the necessity for hardening tissues largely disappeared. The hardening effect of chemicals became secondary to their effect in conserving tissue and cell details accurately. It became the desideratum of microscopists to preserve or "fix" all details in a life-like character with a minimum of distortion. Those agents used for hardening tissues proved also to be the best substances for fixing tissues. The seven most used agents were: solutions of acetic acid, potassium dichromate, alcohol, mercuric sublimate, chromic acid, picric acid and osmic acid. To these was added formalin in 1893. By 1880, it was found that mixtures of chemicals made better fixatives than simple agents alone. Of the hundreds of combinations made by various workers, probably the most important of those which are still used are the solutions of Flemming (1882), Carnoy (1887), Hermann (1889), Tellyesnicky (1889), Zenker (1894), Gilson (1895) and Bouin (1897). In addition to the simple immersion of tissues in fixing fluids, the technic of injecting fluids into the blood vessels came into use (Golgi, 1886, and later, Mann).

The final important advance of the period under discussion concerned the staining of tissues. Though the method somewhat preceded the development of efficient sectioning technics, its most important period coincided with the microtome.\*

\*The history of biological stains has already been considered in an earlier article of this series. *Jour. Mich. State Med. Soc.*, Vol. 33, No. 1.



During the last quarter of the nineteenth century, the various technics mentioned above were consolidated into a routine procedure for microscopic work, and methods of today differ in no essential way from those of that period. Many slight modifications of technic were specifically adapted to one tissue or another, but the procedure consisted of the steps previously discussed, namely, fixing, dehydrating, embedding, sectioning, staining and mounting.

The most modern attitude in microscopical research is characterized by supplementing preparations of dead and preserved tissues by studies on living cells in various physiological conditions.

Protozoa, bacteria and other living organisms have been studied with the microscope for many years, but the isolation of living tissues has been more recent. Leo Loeb attempted this in 1897 on several tissues. The *in vitro* culture of tissues arose more properly, however, with the experiments of Ross G. Harrison on living cells in 1907. He developed media in which nerve cells not only survived, but grew and developed. This demanded aseptic technic, a favorable nutrient medium and a suitable substratum, such as a lymph clot to which the cells could adhere.

Burrows and Carrel in 1910 developed the technic and showed its general application to various tissues. Since these studies, tissue culture methods have provided a means for studying living cells apart from the animal body under any power microscope.

In 1907, M. A. Barbour devised a pipette mechanism of sufficient delicacy to handle individual bacteria, and, in 1911, he showed that it was possible to inject bacteria into individual cells and to dissect the cells as well. The next year, Kite and Chambers performed microdissections on the cell membrane and nucleus, even dissecting out individual chromosomes. The latter worker, in particular, has done much in the past twenty years with the dissection of living cells and tissue cultures.

Some very recent developments in microscopy have concerned the study of living cells as they are intact in the living body. Special microscopes, known as the ultropaque type, have been devised for this purpose. A strong cone of light is brought

to a focus deep within a tissue where it illuminates cells below the surface of the tissues. In another recent method, intense illumination with a minimum of heat is brought to the tissue by means of a quartz rod. High power objectives with long working distance bring the deep cells into focus.

## A CASE HISTORY

Peter Piper—plumber, whose age is forty-six,  
Is admitted into "Judas" under Dr. Herbert Hicks.  
He suffers in a manner truly horrible—Alack!  
From giddiness and headache and pains all down  
his back.

'Twas on a Monday morning right early in the year,  
That patient (on completing a nine days' course of  
beer)  
Was wakened in the small hours by a curious  
"rustling" sound,  
And noticed that a hundred snakes were wriggling  
on the ground.  
He seized a handy bottle, and he thinks he slew a  
score,  
Then the floor sprang up and hit him, and he wot  
of nothing more.  
Since then (Oh most reluctantly) he's stayed away  
from work,  
Though not from laziness, of course, or any wish  
to shirk.  
But (as one will admit) it is impossible to plumb—  
To mend the bath and find the leak from where  
the drippings come  
Upon suffering as Peter Piper (plumber) does—  
Alack!  
From giddiness and headache, and "pains all down  
his back."

## Past History

Born of poor but honest parents, in a somewhat  
lowly state  
Patient passed a peaceful boyhood, but had measles  
when aged eight.

## Family History

A cousin of his mother's had her colon out at Guy's,  
His father, skilled at skittle, once obtained a second  
prize.  
His uncle was a fireman and wore a copper hat,  
But there's hardly any clinical significance in that.

## Condition on Admission

A nasty looking fellow,  
Not at all a pleasant sight.  
His skin's a horrid yellow,  
But his nose—well p'rap's you're right.  
His eyes a beastly colour,  
But react to L. and A.  
His tongue is rather duller,  
But most similar to clay.  
His heart and lungs and liver  
All have known more prosperous times,  
His "murmurs" make one shiver  
(Hyperbole but rhymes).

### Local Condition

In a pleasant situation with an aspect facing south,  
Is a small, hard, rounded swelling at the angle of  
his mouth—  
Moves freely on palpation and is tepid to the touch;  
There's music on percussion, and it does not hurt  
him much.

### Consultation Report

Then there gathered learned doctors, and they all  
examined P—,  
And the first to speak was Dr. Henry Hetherington  
Lee;  
He thought that the appendix ought to really bear  
the blame  
And, where he asked for treatment, would advise  
removing same.  
This awakened Dr. Waterbury Watchet from his  
doze,  
His face expressed amazement, and he said he must  
suppose  
That his senior was joking, for the treatment made  
him smile;  
The case was one for vaccines. Then up rose Dr.  
Lyle,  
And diagnosed Cirrhosis. Last there followed Dr.  
Head,  
Who disagreed with everything that everybody said.

### Operation Note

Operation—a "Pan-Viscerectomy"  
Performed by Sir Mulberry Tree;  
The patient being rendered unconscious  
by the fumes of CHCl.  
He was laid in the dorsal position,  
A fearful incision was made,  
And continued till all the grim contents  
Of the patient's inside were displayed.  
The margins of wound were retracted  
And firmly held thus by a slave.  
The liver and guts were resected,  
(The spleen they decided to save).  
Then the peritoneum was sutured,  
The muscles were brought into place  
With pieces of string, and the skin was  
Secured with a stout leather lace.  
Then the surgeon addressed all the dressers  
And wished they would learn to behave.  
The H. S. he declared was a dotard,  
While the ligature man was a knave.  
Next a pad was applied and a bandage,  
A "many-tailed" one it is said,  
And in care of a nurse and two porters  
The patient returned to bed.

### Diagnosis (made in another department)

Broncho-pneumonia, secondary anemia,  
Peritonitis, and bad septicemia.

—From *Round the Fountain*.\*

\*This humorous poem is from a small volume of two hundred pages made up of bits of prose and verse by students, past and not so far in the past, of St. Bartholomew's Hospital, London. The profits from the sale of the book are to be devoted to a fund for a nurses' home. If the reader likes the sample, the little volume "Round the Fountain," may be obtained through the agency of his local book dealer.

### NOISE AND EFFICIENCY

(Emil Amberg, M.D.)

Harold R. Berlin stated at a luncheon-lecture before 1,000 members and guests at the Producers' Council Club of New York, as follows:

"Noise may be regarded as 'any undesired sound'; something which detracts the attention from a task or play. The engineering term called the 'decibel' was illustrated when the 1,000 persons in the auditorium were asked to shout as loudly as possible, at a given signal. An enlarged view of a 'noise-meter' or 'noise thermometer' on the lecture platform registered 110 decibels, just 10 short of the 120 decibel mark arbitrarily set by engineers as the limit of loudness of a sound that the human ear can endure continually without pain.

"The harm which noise does to the human mechanism is by no means a matter of guess work," said Mr. Berlin. "Medical study has shown that noise impairs the digestive functions by affecting the flow of saliva and gastric juice. It is by no means accidental, therefore, that we seek instinctively a quiet place in which to work, eat, rest or play."

He pointed out that tests conducted in the Department of Psychology at Colgate University showed that a "typist used 19 per cent more energy when working under noisy conditions" and "lost more than 42 per cent in speed." Tests made in telephone central control rooms and department stores, he added, indicated that reductions in the number of errors up to more than 40 per cent could be effected by modern sound-absorbing construction and treatment of walls."

The philosopher Schopenhauer said "On Noise": "Occasionally it happens that some slight but constant noise continues to bother and distract me for a time before I become distinctly conscious of it. All I feel is a steady increase in the labor of thinking—just as though I were trying to walk with a weight on my foot. At last I find out what it is."

The hard of hearing and the deaf people are in the fortunate position not to be affected by outside noises. Consequently their efficiency is greater. We wonder when the office-managers of business houses and other concerns will become acquainted with the fact that the earhandicapped can concentrate better and do more efficient work. "Efficiency" is one of the passwords of the time. We hope that employment offices will draw the proper conclusions from the facts mentioned before. It will be to the advantage of business concerns.—From *The Rainbow*.

### THE KING'S ENGLISH

*Counsel:* Now sir, did you, or did you not on the date in question, or at any time previously or subsequently, say or even intimate to the defendant or anyone else, whether friend or mere acquaintance, or in fact a stranger, that the statement imputed to you, whether just or unjust and denied by the plaintiff, was a matter of no moment or otherwise? Answer, did you or did you not?"

*Defendant:* "Did I or did I not what?"

—Exchange.

I paid a hundred dollars for that dog. He's part collie and part bull!  
Which part is bull?

That part about the hundred dollars.

—ANON.



## DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

### MEDICAL EDUCATION AND PRACTICE\*

DR. JAMES D. BRUCE: I am going to take but a few moments, for there is already too little time left for general discussion. I want to assure you that the University is happy to have you here today, and to emphasize the fact that this is *your* University. Those of us employed here are interpreting as best we can educational programs and policies for the benefit of our student body and the people of the State generally. From time to time, various groups come here to present their problems, and following these representations we frequently find various innovations are made in our policy. I think when the history of Dr. Ruthven's administration is written that the outstanding contribution of this period will prove to have been his willingness and his readiness to meet with the various groups in the State for the solution of problems that affect them in one way or another. And this, too, without sacrifice to prestige or scholarship.

Our profession has ample evidence of this coöperative spirit. Eight years ago, when the doctors, after trying for several years to develop a plan of postgraduate education among themselves—I should say “ourselves” because I was engaged in practice then and a member of the Council of the State Society—found that our best efforts were not reaching our objectives satisfactorily and that we needed academic direction, we presented our needs to the University, and the University accepted the responsibility for the direction of continuing education in Medicine. For years, in Commencement addresses we were admonished that we were simply beginning to study medicine when we graduated, but no one outside of our group assumed any responsibility for this direction except organizations, some of which were of high quality, but were both too expensive and distant to meet the needs

of the average family doctor. We knew perfectly well that new techniques and procedures were constantly being developed and that it was impossible from the reading of the text or a paper, or listening to a lecture, to get an understanding which safely permitted practical application. We felt we needed this assistance, and so represented our needs to University authorities. And that is the reason that the University undertook the direction of this work.

Only a few days ago a gentleman from one of our neighboring universities spent the day with me to learn what we were doing in undergraduate medicine and with the problem of postgraduate education. He said that his faculty had been urging him for a considerable time to undertake a program of continuing education in medicine but that he had been loath to initiate it for the reason that in so many schools and groups the movement had grown for a short period, then gradually languished and died. That has been the history of postgraduate education the country over, with very few exceptions.

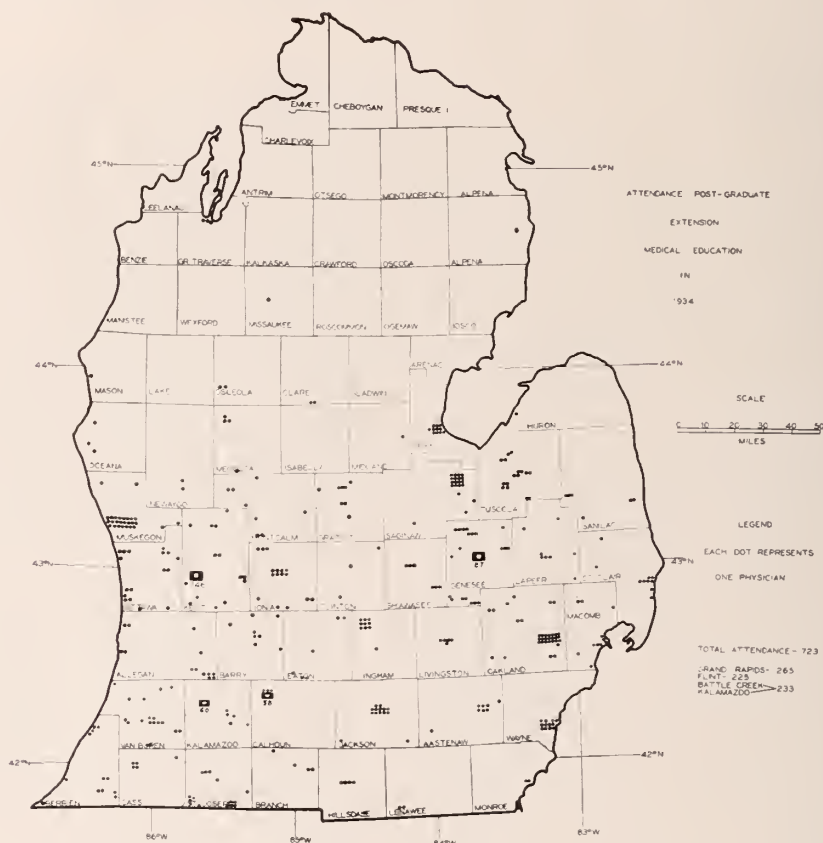
Some five or six years ago, Dr. Jennings—not our own beloved Dr. Jennings of Detroit, but the secretary of the Brooklyn County Medical Society—made a report on the work of that Society. This had been one of the finest postgraduate programs ever developed in the country, but the enthusiasm had begun to wane. In reviewing its status after it had been in operation four or five years, Dr. Jennings gave four important reasons for the loss of enthusiasm and effectiveness of the program.

The *first* reason was that the medical schools of the community had not taken the problem seriously and had not interested themselves in helping in the movement. The *second* reason was that the large hospitals of the community had not coöperated and had not seemed to sense their responsibility and their opportunity in the movement. The *third* reason was the apathy of the profession. The *fourth* was the lack of direction by the group which had instituted the movement. Those were all very cogent reasons.

\*Address by Dr. James D. Bruce, Vice President, University of Michigan, delivered at the Annual Conference of County Secretaries at Ann Arbor, March 27, 1935.

In Michigan we have been fortunate. The need for an educational program was emphasized by the State profession over a period of eight or ten years. Our problems

filler in it; that certain essential subjects were not being given the attention they should be given. So we divided, rather empirically, the whole field of practice into



were thoughtfully presented to the University. Even upon the acceptance of the responsibility by the University, we did not begin the development of the work immediately but organized a committee to study plans for another year—a committee which represented the University, the Wayne University College of Medicine, and the profession. At the end of the year we decided upon a program and a policy, and upon the basis of that we have been operating since.

Six years ago we started in Detroit and in Ann Arbor with a composite program of one month, and for two years we continued that program. There were about forty doctors in attendance the first year, and the second year about fifty.

At the end of that time we reviewed our program, which was patterned largely after the four to six weeks composite courses long in vogue. We took it apart, and we found that there was a great deal of padding or

eight parts and made up a series of programs of one week each. The following year we offered these eight intensive courses, with the result that from then on there has been a rapid increase in attendance and greater satisfaction in our teaching staff.

The attendance has increased from 40 in the first year to 377 in the fifth year. However, we have in the State of Michigan 5,585 doctors. Of these, 4,725 are in active practice, and with 377 doctors in training we were not touching the fringes of our objective. So, the question was how to bring the work more intimately to the practitioner, and to that end we tried another experiment. We opened last year, as many of you know, a center in Flint, in Grand Rapids, and in Battle Creek-Kalamazoo, jointly.

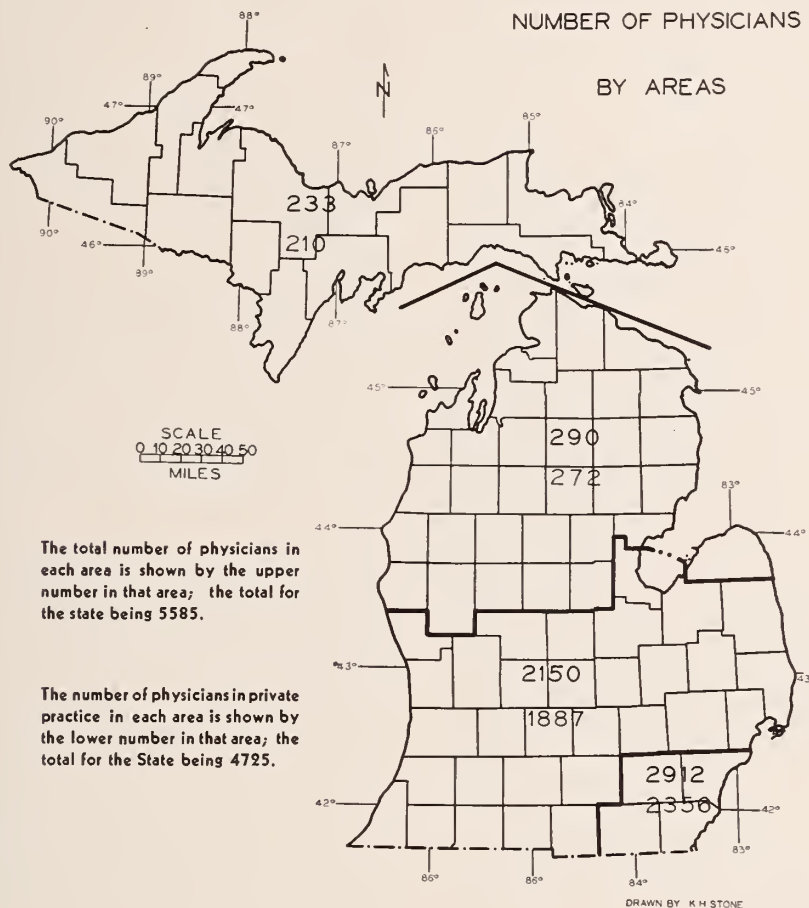
I should like you to observe the distribution here (indicating on map).<sup>\*</sup> There were

<sup>\*</sup>The number of attending physicians is represented by dots in three colors. Flint in red; Grand Rapids in black; and Battle Creek-Kalamazoo in blue.



87 doctors from Flint and 138 from the surrounding country. Note the distances that these doctors came. They are peppered all over this area—Port Huron on the east, Mt.

than double the number in our intensive courses of the preceding year. As a result of this extension we have had a very spontaneous response. Over three hundred let-



Clemens, Pontiac, and all the smaller towns of this district.

In Battle Creek, there were 58 from the city itself; in Kalamazoo, there were 69, and 106 from the surrounding country, many coming from the extreme southwestern portion of the State.

In Grand Rapids, we had 146 local registrations and 119 from the surrounding towns, many driving from 50 to 150 miles.

Looking over the map, you see an intermingling of colors occasionally. That is due to a doctor missing a day in the town in which he is registered and making up his attendance in another center. The dots are not duplicated but credits are balanced between the three centers.

We had a total attendance of 796 in this course—723 members of the State Medical Society and about 60 non-members—more

ters have been received from doctors who attended these courses, commending them and asking that they be continued; and from the northern districts of the State there have been innumerable requests to extend the work into these districts.

We have in mind establishing another center at Bay City. While this will draw some from the Flint district, it will also permit our reaching a considerable territory, both northeast and northwest of Bay City. We contemplate also a center at Traverse City, Cadillac, and Manistee; *i.e.*, we will alternate in these cities. Alpena and Petoskey might be considered for the northeastern part. We have had a teaching and consultation center in pediatrics at Marquette for five years and are now discussing further development in this more distant area with the local profession.

Looking over this map, in four counties in this corner—Wayne, Washtenaw, Monroe, and Lenawee—there are 2,912 physicians. Of these, 2,350 are in active practice in this comparatively small area. If we draw a line from Muskegon to Bay City, excluding these four counties, we have 1,887 in active practice. So you see there are 1,887 plus 2,350, or 4,237, out of our total of 4,725 in active practice, which leaves only 272 doctors in the entire northern district, from here to Mackinac City, and in the Upper Peninsula (which is shown on the other map) 210 practising physicians at the present time.

Much more might be said on this subject but I do wish to emphasize particularly that we believe this program is a success because all of the agencies that should be interested are interested. Our two great teaching institutions, the University Medical School and the Wayne University School of Medicine, our large hospitals, and the profession are mutually concerned, so that with this combination there is no question about the future of a continuous program of medical teaching in Michigan.

Our problem, then, is to develop ways and means to maintain annual courses in our new centers, to extend similar opportunities to our 482 members in the northern portion of the State, as well as to maintain and possibly amplify our present Ann Arbor and Detroit courses. With this accomplished, I have reason to believe the problem of continuing education of the family doctor will be solved.

Our program has not left out of consideration the continued training of the specialist, and although various national studies seem to show that the specialist is already over-represented, we feel that no program of medical education is complete without provision for adequate training in this field. To a limited extent, graduate training has been operating effectively in the University Medical School and plans are now under way for the extension of these opportunities, but they are not sufficiently matured to warrant detailed discussion at this time.

---

*Country Constable:* "Pardon, miss, but swimming is not allowed in this lake."

*City Flapper:* "Why didn't you tell me before I undressed?"

*Constable:* "Well, there ain't no law against undressin'."

—Exchange.

## A.M.A. CONFERENCE ON COUNTY PLANS

On April 27, there was held at the A. M. A. Headquarters in Chicago a conference collaborated in by representatives of County Societies the country over under whose direction plans of one sort and another had been conceived and put in motion to solve one or more phases of medical economic problems in that community. Representatives were present from at least 16 states of the Union and the agenda included presentation of plans of almost every conceivable type.

It is not possible here even to summarize the implications of the many plans presented but a simple classification might be made as follows:

1. Plans for the care of indigents.
2. Pre-payment plans (insurance).
3. Post-payment plans (collection devices).

Dr. Tuck was present by special invitation to present the plan in use in Oakland County, which was recognized as one originally set up and continued in successful operation largely because of the close coöperation given by the Oakland County Medical Society although all funds and administrative responsibility come from FERA and SERA. Dr. Tuck made a forceful yet conservative presentation and aroused considerable interest, particularly among certain representatives from States which had been unable to arrive at any such satisfactory working arrangement with their own state and local governments. There is no question but that the medical profession at large is vitally interested in accomplishments in Oakland County, and the relatively unsatisfactory plans set up elsewhere can be explained largely on the basis of local political situations and lack of qualified leadership, especially on the part of emergency relief officials but also within the profession.

Dr. Spickard, of Seattle, Washington, presented a plan called "King County Medical Service Corporation" which came into being to combat the vicious aspects of private contract practice in that state. The King County program shows unmistakably the power of a local medical association to control the type of medical practice in its own community, since, during the nearly two years of operation of this plan, private contract practice has practically disappeared



in the face of the competition afforded by the unified profession. It was found that private contracts could not be abolished legally and the Medical Society was forced into the insurance business as the only way out of a rapidly growing and deplorable situation.

Under this plan the patient and physician alike have free choice; there has been no attempt to formulate or regiment medical practice; the administrative cost is only 5.2 per cent. But to this must be added 5 per cent as the cost of salesmanship involved in getting the contracts; this item, it is expected, will shortly be abolished; 20.8 per cent went to hospitals and 52.0 per cent plus was paid to professional members for services rendered. Fees paid varied between 50 cents and \$1.15 per unit (dollar) of service rendered. No other plan presented could even approximate these figures. Four-fifths of the physicians in the community participate in the plan.

One of the most ambitious undertaking is that recently devised and set in motion in Washington, D. C. This plan was presented by Dr. Prentiss Willson, President of the District of Columbia Medical Society, and by Mr. Ross Garrett. The plan has been in operation only three months and obviously it is too soon to measure its effectiveness. However, it is noteworthy that the profession in Washington, D. C., already so completely controls medical services in its own community that its "Central Admitting Bureau" passes upon every applicant for care at any free clinic within the District. The allocation of community chest funds for hospitals and clinics is controlled; patients where income is inadequate to care for illness of a "catastrophic" magnitude but who have some earning capacity are cared for after investigation by a "Medical Dental Service Bureau." A post-payment installment plan is tailored to fit the patient's income. Physicians may refer patients to this Bureau for completion of financial arrangements before service is actually rendered but in so doing may occasionally find considerable variation in the estimate of the patient's ability to pay.

The District of Columbia plan, like the King County plan, demonstrates the power of an aroused and organized profession to control any and all phases of medical practice in that community. It is to be hoped

that in the exercise of this newly found power the profession will maintain its dignity and continuance to be worthy of high esteem in the operation of these enforced business expedients as it has for its professional accomplishments.

—C. T. EKLUND, M.D.

---

#### DR. TUCK'S IMPRESSIONS OF CHICAGO CONFERENCE

We had a very interesting time at the conference held in Chicago. The bureau of Medical Economics of the A. M. A. called this meeting of representatives from all sections of the country to hear from them about various plans in use by county medical societies for the collection of fees for medical service. All the plans described at the meeting dealt with pre-payment or post-payment of fees by patients in the low income group.

The Oakland county program was the only one in which welfare medical care was considered, which proved somewhat of a surprise to us. We thought that we would hear many various plans described but apparently other states have been slow in taking advantage of privileges offered by the Welfare Administration or have been unable to get coöperation from the Administrators in the different counties. It seemed to us that no uniform interpretation of FERA No. 7 has been made, hence the lack of anything resembling our program as we know it. We perhaps expected too much and consequently came away somewhat disappointed. However, we were assured by the editor of the A. M. A., Dr. Morris Fishbein, that something constructive would come from this meeting and would be presented before the House of Delegates in the Atlantic City convention. We feel that the medical profession of this country has a great deal to gain by having some positive leadership asserted by the A. M. A. at this time. Should this leadership fail or falter the physicians of this country stand to lose millions of dollars they justly deserve. We cannot help but feel that could the rank and file be heard from emphatically enough they would endorse a uniform program for the care of these people.

We hope that we are mistaken in our

impression of the attitude of the officers at A. M. A. headquarters and will be very much pleased to learn that something constructive will emerge from the coming convention in June.

It has always seemed to us that we as medical men have been slow in presenting our views in regard to such programs as these. We wonder what the leaders of other groups such as the American Federation of Labor, etc., would do in similar circumstances. With an appropriation of \$880,000,000 to care for the needs of Welfare clients the medical men of this country should receive at least 6% of that amount or \$52,800,000 for work they have done for nothing in the past. For this reason we expect to hear of some definite program advocated by the leaders of the A. M. A.

—R. G. TUCK, M. D.

#### MINUTES OF THE MEETING OF THE EXECUTIVE COMMITTEE OF THE COUNCIL

The Executive Committee of the Council convened in Flint, Michigan at 6:30, Thursday, May 16, 1935. Present, Chairman Powers, President Smith, President-Elect Penberthy, Vice Speaker Reeder, Doctors Carstens, Heavenrich, McIntyre, Councilors Cook and Perry, Secretary-Elect Ekelund and Secretary Corbus. Absent, Doctors Luce and Boys.

The Secretary reported that the dues had come in most satisfactorily. A special letter which was sent out to all delinquent members on May 15 brought forth many responses from members who had been careless in paying their County Secretary. The membership now on record exceeds that of a year ago. The lists are at this time incomplete, but we estimate a gain in membership as of June 1, over that of 1934, of about 300 members.

The Secretary briefly reported on the proposed scientific program for the Annual Meeting.

The Secretary read a letter from a committee of the A. M. A. which set forth the importance of presenting the problems and purposes of organized medicine to senior undergraduates that they may have a better understanding of the medical practitioner's viewpoint, especially on the question of insurance and other matters involving medical economics. It was suggested that arrangements might be made for a competent speaker or speakers to appear before the senior classes to discuss such pertinent problems as might be indicated and the opportunity taken to stress the advantages which organized medicine and the Michigan State Medical Society offer to the young doctor. On motion by Carstens, seconded by McIntyre, it was voted that a committee, consisting of the President, the President-Elect and the Secretary be appointed and directed to discuss with the Deans of the University of Michigan Medical School and the Wayne University Medical School the advisability of such a program and, if agreeable to the school authorities, the committee be empowered to provide speakers to appear before the senior classes. The committee

was also directed to draft a letter to be addressed to the graduating students, inviting them to membership in the Michigan State Medical Society, when properly qualified, and pointing out to them the advantages of such membership.

Believing it to be of real advantage to the Society that the Secretary be given the opportunity of keeping in close contact with the national organization's affairs, Carstens moved, seconded by McIntyre, that Michigan follow the lead of many other state societies and require the Secretary to attend the A. M. A. Annual Meeting, the sum of \$150.00 to be appropriated for this expense; this amount to be equally divided between the Secretary and the Secretary-Elect in partial payment of their expenses. The motion was carried.

The Secretary read the financial report of the Legislative Committee, stating that the \$2,000 appropriated for expenses had been overdrawn by \$185.09 and asking for authorization to pay the bills to this amount that were now before him. A letter from Doctor Christian was read commending the work of the Legislative Committee. Doctor Perry reported for the Legislative Committee and asked for an additional appropriation. Following a discussion and on motion of Doctors Heavenrich-McIntyre an additional sum of \$1,000 was appropriated for the use of the Legislative Committee between now and the January meeting of the Council.

#### Annual Meeting

The special purpose of this meeting of the Executive Committee was for the consideration of the report of the Secretary and Secretary-Elect on their recent visit to Sault Ste. Marie. The Secretary had sent out the report of his visit to each Councilor. He reported in this letter that the facilities for general meetings were excellent but that he felt much concerned about the inadequacy of hotel accommodations. Ninety rooms with double beds and twelve rooms with twin beds were all that the Hotel Manager could promise. The Secretary noted in his letter that at Mackinac Island in 1927 there had been an attendance of 389 and if this number or more came this year the facilities were definitely inadequate. He reported that there were hotel accommodations at the Canadian Soo, not yet checked, but probably in excess of 100, and that he had been assured that the residents of the Soo would freely open up their homes to the doctors.

The Secretary also reported that the Grand Hotel at Mackinac Island would offer the exclusive use of their hotel for the week of September 8 with the rates from \$6.00 to \$8.00 a day, American Plan, together with certain other inducements such as an orchestra, exhibition booths, etc., free. Doctor Perry opposed a change from the Soo and assured the Committee that the people of the town could be depended upon to make up for the deficiency of hotel accommodations through their hospitality and that Mackinac Island was not considered a part of the Upper Peninsula and that he did not believe the physicians of that district would be willing to accept the substitution.

It was moved by Heavenrich and seconded by McIntyre that the Secretary telegraph every County Secretary in the Upper Peninsula to determine whether Mackinac Island would be an acceptable substitution for the Soo, the desire was to give first thought to the men in the Upper Peninsula. When the vote was completed, the result was then to be submitted to each individual Councilor for a mail vote. Motion carried.

The meeting adjourned at 11:00 P. M.

BURTON R. CORBUS, *Secretary*.



NOTE: Pursuant to instructions, the Secretary communicated with each Upper Peninsula Secretary and the vote was five to five, some of the Societies being enthusiastically in favor of Mackinac Island, others being equally in favor of the Soo with a few who preferred the Soo but would be satisfied with the change. This vote was communicated to the Councilors and the return vote as to the place of meeting was nine to nine, the Chairman's vote included, so the meeting place remains at the Soo.

The well known hospitality of the Soo is expected to make up for the deficiency in hotel accommodations. It is evident from letters received that many men in the Lower Peninsula prefer the Soo and felt that, under the circumstances, it would be unwise to change. There is an excellent hotel in the Canadian Soo and it must be said here that doctors attending the meeting need have no fear that they will not be comfortably though perhaps not conveniently housed.

## COUNTY SOCIETIES

### BARRY COUNTY

The regular meeting of the Barry County Medical Society was held Thursday, April 25, in Hastings. The speaker, Dr. Paul S. Barker, Cardiologist from the University of Michigan Hospital, was obtained through the coöperation of the W. K. Kellogg Foundation.

Dr. Barker brought with him the electric stethoscope used by the University of Michigan Hospital for medical students. Through this instrument all of the physicians present were able to listen to the patient's heart at the same time. The instrument may be tuned to eliminate heart sounds of various pitches, making it possible for certain murmurs to be tuned out and others listened to. This enables the practising physician to learn the pitch of various types of heart murmurs, as well as their position in the cardiac cycle.

The afternoon clinic was followed by the regular dinner meeting at which Dr. Barker talked on "Heart Disease in Children." Dr. Barker was much interested in the effect of moving children with rheumatic heart disease into a more tropical climate. He stated that there was definite improvement in children under such a régime.

This meeting was well attended and enjoyed by everyone.

H. A. ADROUNIE, M.D., *Secretary*.

### HOUGHTON COUNTY

The regular monthly meeting of the Houghton County Medical Society was held at the Miscowau-bik Club, Calumet, Tuesday, May 7, 1935, at 8:30 P. M. The scientific program was preceded by a dinner at 6:30 P. M.

#### *Program*

Report of a Case of Actinomycosis—Dr. W. T. S. Gregg.

Report of a Case of Arterio-Venous Fistula—Dr. J. R. W. Kirton.

Motion Picture—Modern Methods of Anesthesia. Courtesy of Winthrop Chemical Company. Discussion led by Dr. T. P. Wickliff.

W. T. S. GREGG, *Secretary*.

### SHIAWASSEE COUNTY

Shiawassee County Medical Society was entertained at the January meeting by a movie shown by Dr. A. L. Arnold, Jr., the subject of which was "The Newer Methods of Anesthesia."

The February meeting was addressed by Dr. Dale Kirk, of Flint, on "Some Practical Points in Obstetrics."

The March meeting was "Ladies' Night" with a six o'clock dinner served at Christian's restaurant, which was a great success socially. The event was sponsored by Dr. and Mrs. F. A. Watts.

The April meeting was addressed by one of the society's members, Dr. LaMotte Bates, of Durand, whose subject was "Meningitis." Dr. Bates exhibited a patient whom he had been treating for two years or more, by periodical withdrawals of spinal fluid.

The May meeting was addressed by Drs. L. E. Verity and R. L. Mustard, both of Battle Creek, on "Peptic Ulcer," covering the modern medical and surgical treatment, respectively. All meetings have been well attended.

W. E. WARD, *Secretary-Treasurer*.

### SAINT CLAIR COUNTY

A regular meeting of Saint Clair County Medical Society was held at the Hotel Harrington, Port Huron, Mich., Tuesday, May 7, 1935.

Supper was served to nineteen members and four guests. At the time the meeting was called to order by President Waters, twenty-eight members and four guests were present.

The minutes of the preceding meeting were read and approved. Communications were read and placed on file. A committee on legislative activity, consisting of Doctors Heavenrich and Cooper, reported a visit to Lansing and stated they were satisfied that Representative Tomlin, from this district, would work for the best interests of the profession. The president then introduced Dr. John Dorsey of the psychopathic hospital at Ann Arbor who addressed the Society upon "Mental Disease." The speaker defined mental disease other than that due to intoxication and organic disease of the brain as a "disorder of the person." He spoke of life as "a conflict" and described reactions resulting therefrom in certain clinical cases. Doctor Dorsey stated that psychiatrists had to deal with only six or seven basic conditions, i.e., schizophrenia, manic-depressive states, the psychoneuroses, psychopathic personality, mental deficiency, mental disease due to infection, intoxication, syphilis, et cetera, and according to some authorities paranoid states. The speaker defined and described the elementary factors entering into mental disease and by examples taken from clinical experience made them understandable.

The meeting was one of the most profitable of the year.

A regular meeting of Saint Clair County Medical Society was held at the Harrington Hotel, Port Huron, Michigan, on Tuesday, May 21, 1935.

Twenty members and four guests were present. Reading of minutes of the preceding meeting was omitted. President Waters announced that Judge Black of the Probate Court was ready to meet the Emergency Relief Committee of the Society for a conference and stated that Doctors Thomas and LeGalley of the Staff of Port Huron Hospital were to be included in the conference. He instructed Dr. Patterson to arrange a date for the meeting. President Waters also announced that the Hospital Board and Building Committee wished to have a joint meeting with the Society and that he had

set Tuesday, May 28, as the time of the meeting, to be held at the Harrington Hotel with supper at 6:30 P. M. The Secretary was instructed to send out notices to this effect. A motion was adopted to the effect that the expenses of this special meeting be defrayed as other meetings of the Society so far as supper costs were concerned.

Dr. George Currie of Flint reported a series of six cases of musculospiral palsy in his own practice with favorable results. A series of lantern slides was used by the speaker. The conclusions reached as a result of this series of cases indicate that early surgical interference, after the first sign of wrist and finger drop appear, is best. Dr. William Clift of Flint spoke on, "Common Pathological Changes in the Spine with Especial Reference to the Mechanical Forces Involved." The conclusions drawn indicate the necessity for rest of the spine by use of the posterior shell in cases of injury or disease if deformity is to be prevented.

GEORGE M. KESL, *Secretary-Treasurer.*

## TUSCOLA COUNTY

The regular meeting of the Tuscola County Medical Society was held at the Hotel Montague, Caro, Michigan, April 11, 1935. Dinner was served at 6:30 P. M.

The meeting was called to order at 8:30 P. M. by Dr. A. S. Rundell, who called upon Dr. E. C. Swanson to introduce the speakers of the evening. Dr. Powers of Saginaw was the first speaker and, as district councillor, discussed various phases of medical economics.

The second speaker was Dr. Slemons of the State Department of Health, who discussed in detail the entire list of biologicals furnished by the State.

Report of Censorship committee, Drs. Johnson and Race, on Dr. Harry F. Vail of Unionville, for membership subject to the usual probation period, was voted upon. Dr. Vail was elected to membership.

Motion by Dr. Swanson to authorize the Public Health Committee to publish posters was seconded by Dr. Barbour. Carried. A resolution was passed that the Tuscola County Medical Society express its deepest regrets at the passing of a former member, Dr. F. P. Bender at Detroit, Michigan.

LLOYD L. SAVAGE, *Secretary.*

## WAYNE COUNTY

Membership in the Wayne County Medical Society has reached an all-time high. The figures are as follows:

Active .....	1524
(forty-six in process of acceptance)	
Honor .....	25
Associate .....	77
Non-resident .....	27

"Open House" was held in the Club Rooms of the Wayne County Medical Society, May 9, 1935, for members of the Woman's Auxiliary of the Society and the Women's Mobilization of the Community Fund. Tea was served and a tour of inspection coupled with instruction was made in which the various activities carried on in the Society's headquarters in behalf of Detroit's needy sick, such as the Medical Service Bureau, the Medical-Dental Bureau of the FERA and the Medical-Dental Aid of the Wayne County Medical Society and Detroit District Dental Society were explained. Talks were

given on the general medical-sociologic problems of the day.

The Wayne County Medical Society will be host to the American College of Physicians, which will hold its 1936 meeting in Detroit.

Mother's Day was celebrated by the Maternal Welfare Committee of the Society in a special series of radio broadcasts and public talks to continue the permanent campaign inaugurated in 1934 to interest the public in maternal welfare. The program was under the direction of Dr. H. P. Cushman, Chairman of the Maternal Welfare Committee.

The Noon Day Study Club, energetic group composed of younger members of the Wayne County Medical Society, put the finishing touches on its scientific year with an annual banquet and meeting held May 22 in the club rooms of the Society. The following officers, elected at the general meeting of May 7, were inducted into office: President, Dr. C. E. Umphrey; president-elect, Dr. John Hookey; secretary, Dr. Leo Rennell; treasurer, Dr. Charles M. Burgess; chairman of the Medical Section, Dr. Ben Johnstone; secretary of the Medical Section, Dr. W. B. Cooksey; chairman of the Surgical Section, Dr. F. X. Krynicki; secretary of the Surgical Section, Dr. V. E. Nelson.

Delegates and Alternates to the 1935 State Society meeting are as follows:

Delegates	Alternates
Wm. J. Cassidy	Chas. S. Kennedy
Jos. H. Andries	Fred B. Burke
J. M. Rohb	Stanley W. Insley
T. K. Gruber	Wm. S. Reveno
H. Wellington Yates	C. E. Dutches
H. W. Plaggemeyer	C. K. Hasley
R. C. Jamieson	E. C. Baumgarten
L. J. Hirschman	B. U. Estabrook
Ralph H. Pino	A. H. Whittaker
Frank A. Kelly	Martin H. Hoffmann
L. T. Henderson	Basil L. Connelly
Wm. J. Stapleton, Jr.	L. O. Geib
Richard M. McKean	R. V. Walker
A. E. Catherwood	C. R. Davis
Alexander W. Blain	Allan McDonald
Hugo A. Freund	H. L. Morris
W. R. Clinton	H. W. Pierce
W. D. Barrett	Frank Kilroy
E. D. Spalding	A. J. Himmelhoch
C. F. Brunk	W. R. McClure
A. F. Jennings	Frank A. Weiser
H. F. Dibble	Frank Purcell
C. E. Umphrey	Wm. H. Honor
Louis J. Gariepy	V. L. VanDuzen
David I. Sugar	Wm. P. Woodworth
A. P. Biddle	Daniel P. Foster
John L. Chester	H. W. Hewitt

## WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, *President*, Kalamazoo.  
MRS. F. M. DOYLE, *Secretary*, Kalamazoo.

### Kalamazoo County

On April 16, members of the Woman's Auxiliary to the Kalamazoo Academy of Medicine enjoyed a cooperative dinner at the home of Mrs. C. B. Fulkerson, Kalamazoo. Covers were laid for twenty-eight. Mrs. F. T. Andrews, State Auxiliary President, informally presented several bills now pending before the legislature, followed by a round-table discussion. Mrs. J. G. Malone was the assisting hostess.

Mrs. R. G. Hubbell, president, appointed the following Committee on Resolutions, with power to act, on the death of our beloved Honorary President and state organizer, Dr. Caroline B. Crane: Mrs. Clarke B. Fulkerson, chairman; Mrs. Leo J. Crum and Mrs. John MacGregor. Resolutions follow:

We, the Woman's Auxiliary to the Kalamazoo Academy of Medicine, submit to the All-wise Providence of the final



summons of our valued Honorary President and State Organizer, Dr. Caroline Bartlett Crane, and

WHEREAS, we have suffered the irreparable loss of her wise counsel and guidance and bearer to us items of a National and World Outlook, be it

RESOLVED, that we endeavor to emulate her sterling qualities of counselor and friend to all worthy causes, especially for the uplift of the unfortunate, and that we may carry forward such of her noble interests, and,

FURTHER BE IT RESOLVED, that this word of sympathy be extended to Dr. A. W. Crane and family, and a copy be sent to the State Medical Journal and one be spread upon the records of our Auxiliary.

Signed: CORA K. FULKERSON, Chairman  
ELMA W. MACGREGOR  
MARY F. CRUM

On April 4 the Auxiliary sponsored a benefit bridge, seventy-eight tables playing, for the benefit of the Hard of Hearing School. During the afternoon the Child Conservation Circle held a food sale, proceeds to be used for radio ears.

### Kent County

The Kent County Auxiliary honored the state officers at a spring musicale and tea given at the home of Mrs. Carl F. Snapp, Wednesday afternoon, April 17. The state officers present were Mrs. F. T. Andrews, president; Mrs. F. M. Doyle, secretary-treasurer; Mrs. Guy L. Kiefer, state organizer, and Mrs. J. E. McIntyre, state historian. Preceding the musicale, Mrs. A. V. Wenger, retiring president of the Kent County Auxiliary, was hostess at a luncheon given at the Woman's City Club.

The annual luncheon was held on May 8 in the Women's City Club, Grand Rapids.

Brief talks were given by Dr. Richard R. Smith, president of the state medical society, Dr. J. B. Whinery, president of Kent County Medical Society, and Dr. J. G. Rigerink, president-elect.

Annual reports were read by the committee chairmen. A farewell address was delivered by Mrs. A. V. Wenger, retiring president of the society, after which Mrs. Henry J. Pyle, president-elect, was installed as president for 1935-36.

Mrs. WM. R. TORGERSON.

### Oakland County

The Oakland County Auxiliary has been busy all winter making articles for hospitals. Each month the group met for a pot-luck luncheon at the home of one of its members. The afternoons were spent working for hospitals.

Plans are now under way for a steak-roast, which will be held some time in May, at which the Medical Society will be guests of the Auxiliary.

### Wayne County

The Woman's Auxiliary to the Wayne County Medical Society held its Neighborhood Bridge Tournament on Tuesday, April 30, at the Botsford Tavern. Through the courtesy of the Ford Motor Company, cars were provided. During the year, groups have been meeting in the various homes of the members to play bridge. The purpose of these meetings has been twofold: to enable the membership to become better acquainted, and to enhance the treasury. Botsford Tavern is an authentic stagestop tavern filled with real antiques, taken from Greenfield Village, and graced with the charm of its hospitable period. Mrs. Shaw, the hostess, is noted for the originality of her teas. That on April 30 was a Colonial Tea. Music was furnished by the Ford Dixie Eight.

The Board of Directors and members of the Ways and Means Committee acted as hostesses for the afternoon.

On Thursday, May 9, from three to five, the

Wayne County Medical Society and Women's Auxiliary held open house at the Society's headquarters, Woodward at Canfield, for the members of the Women's Mobilization for Human Need of the Detroit Community Fund.

Mrs. Frank W. Hartman, president of the Auxiliary, brought greetings from her society, and Dr. William Cassidy, president of the Wayne County Medical Society, represented that organization. He introduced Dr. Frederick B. Burke, who lectured on the activities of the Wayne County Medical Society.

(Mrs. FRED'K) FLOY T. MUNSON,  
Chairman, Press Committee.

### Jackson County

John Masefield's poem, "Everlasting Mercy," was reviewed by Rev. Carl S. Winters at the April meeting of the Jackson County Medical Auxiliary at the home of Mrs. M. N. Stewart, Jackson. Assisting hostesses were Mesdames W. B. Anderson, C. D. Munro, Guy Culver, E. O. Leahy, W. E. McGarvey and E. F. Lewis.

Dinner, served to thirty-five, was followed by a business session conducted by Mrs. Glen C. Hicks, president. A nominating committee was named consisting of Mesdames Clyde Leonard, H. A. Brown and E. D. Crowley.

Tribute was paid to the late Dr. Caroline Bartlett Crane, organizer of the auxiliary in 1927. Plans for the annual spring luncheon in May were discussed.

### Saginaw County

The annual meeting of the Saginaw County Auxiliary was held Tuesday evening, April 16, at the home of Mrs. Henry J. Meyer, with Mrs. J. A. McLandress presiding. The annual reports were followed by the election of officers at which time the following were elected: President, Mrs. Milton J. Butler; vice president, Mrs. Lloyd C. Harvie; secretary, Mrs. W. J. O'Reilly; treasurer, Mrs. M. D. Ryan. Bridge was enjoyed later in the evening and refreshments were served by Mrs. Robert Jaenichen and her committee.

## MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner  
LANSING, MICHIGAN

### The Principal Causes of Death in Michigan in 1934

Study of the principal causes of death in Michigan in 1934 by five year age groups reveals many significant facts.

Deaths under one year totalled 4,377, exceeded only by the deaths in the 65-69, 70-74, and 75-79 age groups. Among infant deaths, premature birth was responsible for the largest number, 1,418, followed by pneumonia (601 deaths), congenital malformations, diarrhea and enteritis, injury at birth, other diseases of early infancy, congenital debility and disease of the thymus. The high ranking of pneumonia, and the fact that 100 children died from disease of the thymus are worthy of special note.

Deaths of children from one to four totalled 1,138, a little more than one-fourth of those occurring among children under one year. Pneumonia led as a cause of death, with accidents a close second. Diarrhea and enteritis came third.

Still fewer deaths (699) occurred in the 5-9 age group. Accidents took first place in this group, with appendicitis second and pneumonia third.

The age group 10-14 had the smallest number of deaths of any of the classifications. There were only 580 deaths in this group, 143 due to accidents, 66 to appendicitis and 371 to all other causes combined.

Deaths increased to 875 in the next age group, 15-19 years. Again accidents headed the list, being responsible for 248 deaths. Tuberculosis appeared for the first time in this age group, causing 137 fatalities. Appendicitis continued as a major cause, (77 deaths) and pneumonia came next (52 deaths).

Accidents exactly matched tuberculosis for first place in the age group 20-24, each causing 252 deaths of the total of 1,169 in this grouping. Puerperal causes appeared for the first time, followed by pneumonia and appendicitis. Heart disease also made its first appearance as a principal cause of death, coming after appendicitis.

In the age group 25-29 tuberculosis took first place, with 273 deaths. Accidents dropped to second place, and pneumonia was third, with puerperal causes fourth and heart disease fifth. Suicide for the first time became a principal cause of death in this age group. The total number of deaths in this classification was 1,311.

Tuberculosis still led in the age group 30-34, causing 235 out of the total of 1,533 deaths. Accidents followed closely, then pneumonia, cancer (for the first time), heart disease, puerperal causes, appendicitis and suicides.

Accidents came back to first place in the age group 35-39, being responsible for 241 of the 1,894 deaths. Tuberculosis, pneumonia, heart disease, cancer, puerperal causes, nephritis, suicides and appendicitis followed in the order named.

For the only time, cancer led as a cause of death in the 40-44 age group. Heart disease was a close second, followed by accidents, tuberculosis, pneumonia, nephritis, suicides, apoplexy, appendicitis and syphilis. Deaths in this classification totalled 2,370.

Heart disease took first place as a cause of death in the 45-49 age group, a lead which it maintained through all the remaining groups. Cancer took second place, a position which it also held until it yielded to apoplexy in the age group 75-79. Beginning with age group 50-54, apoplexy ranked third as a cause of death, until the 75-79 group, when it rose to second place. It dropped to third in age group 90 and over, being replaced by senility.

In the groupings beyond 45-49, pneumonia, tuberculosis, nephritis, accidents, diseases of the coronary arteries, suicides, diabetes, appendicitis, angina, arteriosclerosis and senility appeared in varying rank. The persistence of accidents as a major cause of death at all ages compels attention.

The largest number of deaths, 5,229, occurred in the age group 70-74, the next highest, 4,948, in the group 75-79, and the third highest, 4,610, in the group 65-69. The total of deaths in all ages and from all causes in 1934 was 50,440, equivalent to a death rate of 9.90.

#### Communicable Disease Incidence

Since the first of the year the scarlet fever incidence has been running considerably below last year's record and also below the five year mean. In fact, as time progresses the incidence is dropping farther and farther below the record of last year for the same period. For the month of April there were 1,463 cases reported as compared to 3,355 for April, 1934.

Diphtheria has likewise been quite low, there being a total of 17.9 cases for the first four months.

The total number of cases for the corresponding period a year ago was 236.

Typhoid fever has been slightly below the 1934 record, there being 36 cases for the first four months as compared to 53 of last year.

The whooping cough incidence has been slightly above that of last year. Pneumonia continues quite high.

Smallpox has been almost non-existent, there being only three cases reported for the first four months.

The disease which has been far in advance of all others is measles. The total number of cases reported for the first four months of this year has exceeded the 42,129 cases reported for the year 1932, that number being the largest on record heretofore.

#### Diphtheria Studies

For more than a decade, diphtheria immunization campaigns have been carried on in the state. During this time diphtheria has been decreasing at a very rapid rate until it has reached the point where it may almost be classed as a rare disease. Because of two factors, decrease in disease and increase in immunization, question has arisen as to just what percentage of children under ten years of age may actually be immune to the disease as measured by the Schick test, and, do we have more or less diphtheria carriers at present?

An attempt is being made to answer these questions by a Schick testing campaign and collection of nose and throat swabs for diphtheria cultures in two counties, Grand Traverse and Ionia. This work is being done by a physician from the Michigan Department of Health and the field work will be completed before the end of the school year. It will be some time after that before all data are analyzed.

## GENERAL NEWS AND ANNOUNCEMENTS

Dr. Frank Pierce of Detroit has returned from San Antonio, Texas, where he was a delegate to the National Kiwanis meeting.

\* \* \*

The sympathy of their many friends in the profession is extended to Drs. John L. Chester and S. W. Southwick of Detroit, whose wives died in May.

\* \* \*

The new officers of the Detroit Academy of Surgery elected at the annual meeting May the ninth are Dr. Joseph H. Andries, president; Dr. Louis J. Morand, vice president; and Dr. Roger V. Walker, secretary-treasurer.

\* \* \*

Dr. David I. Sugar has resigned as editor of the *Detroit Medical News* after filling the position with ability for two years. He is succeeded by Dr. Harold Mack as editor and Dr. Clyde Hasley as assistant editor.

\* \* \*

Dr. Samuel F. Marshall who has for ten years been a member of the Staff of the Henry Ford Hospital and since April, 1930, has been resident surgeon, has resigned. He has gone to Boston to be associated with Dr. Frank Lahey in the Lahey Clinic.



A Crippled Children's Clinic and Hospital is to be constructed at Traverse City. The cost of \$75,000 will be defrayed by the Michigan Children's fund. The measure, sponsored by Senator Felix H. H. Flynn, Cadillac Republican, will allow the clinic to obtain power, heat, light and a site from the Michigan State Hospital at Traverse City.

\* \* \*

According to the sixth annual report of the Children's Fund of Michigan published May first an additional gift to the fund was made amounting to \$2,156,675. Dr. Hugo A. Freund of Detroit is president of the fund. In spite of disbursements during the past several years, the fund at present is \$10,601,586, which is more than the original gift.

\* \* \*

Mr. William Burns was married on May the first to Miss Josephine Murphy, both of Detroit. Mr. Burns has occupied the position of executive secretary of the Wayne County Medical Society for the past five years. The bride and groom left immediately for their honeymoon trip, going by airplane to New York and by steamer to San Francisco via the Panama Canal.

\* \* \*

Dr. Chalmers J. Lyons, professor of oral surgery in the Dental Department of the University of Michigan died on May the eighteenth at the age of sixty-one years. He had been a member of the oral surgery staff since 1906. After graduating from the University of Michigan in 1898 he practised dentistry in Adrian, later coming to Ann Arbor as teacher in the Dental School.

\* \* \*

The spring meeting of the Michigan Association of Roentgenologists was held at the University Hospital, Ann Arbor, Saturday, May fourth. The program was as follows: "Intervertebral Tuberculosis," Dr. Carl Badgley, Department of Bone and Joint Surgery; "The Surgical Treatment of Bronchogenic Carcinoma of the Lung," Dr. John Alexander, Department of Thoracic Surgery.

\* \* \*

The Detroit Roentgen Ray Society held its annual meeting at Toledo, where the society was the guest of St. Vincents Hospital and Dr. John B. Murphy, roentgenologist. The annual election of officers resulted as follows: Dr. E. G. Minor, president; Dr. Carlton Pierce of Ann Arbor, vice president; and Dr. E. R. Witwer, secretary-treasurer. The program consisted of a presentation of interesting films by Dr. Murphy's staff.

\* \* \*

The regular monthly meeting of the Southwestern Michigan Triological Society was held in Kalamazoo, on May 23. After dinner at the Columbia Hotel, Dr. M. E. House presented a paper on "The Management of Sinus Cases in Relation to General Practice and the Public." Dr. Leo Mayer of Chicago read a paper entitled "Meanderings in Ophthalmology," which was followed by a general discussion. About thirty members attended this meeting.

\* \* \*

Dr. Charles H. Ainsworth of Saint Clair, Michigan, died May 13, 1935.

Doctor Ainsworth was born at Algonac, Michigan, in 1902, was educated in the public schools of Saint Clair County and graduated with the degree of Doctor of Medicine at the University of Michigan in 1925. Since completion of his professional education Doctor Ainsworth has resided at Saint Clair, Michigan, making his home with his parents, who survive him, and has been engaged in the practice of medicine in that county.

The annual election of the Wayne County Medical Society held May the twentieth resulted as follows: President, Dr. Robert Jamison; president-elect, Dr. Thomas Gruber; secretary, Dr. Martin Hoffman; trustee, Dr. Joseph Andries. The retiring president, Dr. William Cassidy, reported 1,510 members in the society. Dr. A. T. McCormack, State Commissioner of Health in Kentucky and Secretary of the Kentucky State Medical Association, was the guest speaker at the Wayne County Medical Society. Dr. McCormack emphasized the importance of leadership on the part of the medical profession. The profession recognizing a changing economical and industrial world must lead in adopting medical care to the changes that have taken place in the matter of social adjustment.

\* \* \*

At the annual commencement of Wayne University, Dr. William Donald of Detroit was awarded the honorary degree of Doctor of Science in Education. The degree is well merited. Doctor Donald has long been a member of the faculty of the Detroit College of Medicine and Surgery, now the medical department of Wayne University. A graduate of McGill University during the early years of Osler's connection with the institution he has been a life long student of medicine. Doctor Donald is of a genial personality. He is a friend to every one whose good fortune it is to know him. This journal extends congratulations.

\* \* \*

#### He Performed the First Appendectomy

Dr. Abraham Groves, a Canadian surgeon residing at Fergus, Ontario, died on May thirteenth at the age of eighty-seven years. Dr. Groves had practiced medicine and surgery for sixty-five years. He is said to have performed the first operation for the removal of appendix. His career was the picturesque and interesting one of a country doctor. Even before antiseptic and aseptic surgery had become well recognized, Dr. Groves took the precaution to boil all instruments that were to be used in his operations, as well as to scrub his hands and arms in much the same manner as the modern surgeon.

\* \* \*

#### American Medical Association Membership and Fellowship Defined

Every member in good standing in any constituent state medical association whose name is officially reported to the secretary of the American Medical Association as eligible for enrolment is a *member* of the American Medical Association. No *member* of the American Medical Association is called on, as such, to pay any dues or to contribute financially to the Association.

Members of the American Medical Association who graduated from recognized medical schools are eligible to apply for Fellowship.

To qualify as a Fellow, a member in good standing is required to make formal application for that relation and to subscribe for the *Journal*. Applications must be approved by the Judicial Council. Fellowship dues and subscription to the *Journal* are both included in the one annual payment of \$7.00, which is the cost of the *Journal* to subscribers who are not Fellows.

None but Fellows are eligible for election as officers; none but Fellows can serve as member of the House of Delegates; none but Fellows can register at the annual sessions of the Association or participate in the work of its scientific sections.

*Members* of state medical associations pay dues to those bodies but they pay nothing to the American Medical Association. *Fellows* pay dues and subscription to the *Journal* in the sum of \$7.00 a year, which has nothing to do with county or state dues.

### Urological Association Meeting

The Detroit Branch of the American Urological Association met at the Hotel Olds in Lansing, Michigan, on Saturday, May 25, 1935. The chair was occupied by the president, Dr. Wm. E. Keane. There was an afternoon program consisting of several papers presented by members of the Association. The afternoon program was followed by a dinner and an evening program.

Two guest speakers presented the evening program. Dr. Robert Dieterle of the University Hospital, Ann Arbor, spoke on "Psychological Medicine in Relation to Genito-Urology" and Dr. Ernest Rupel, Indianapolis, spoke on Urological Diagnosis: "The Problem of the Difficult Case."

Election of officers for the coming year took place, results of which are as follows: President, Dr. Robert S. Breakey, Lansing; vice president, Dr. Alvin Thompson, Flint; secretary-treasurer, Dr. George C. Leckie, Detroit. The Executive Committee includes Dr. Harold L. Morris, Detroit, and Dr. George C. Burr, Detroit.

\* \* \*

### American College of Physicians

At the recent meeting at Philadelphia (April 29 to May 3) of the American College of Physicians, the following from Detroit were admitted to Fellowship: Drs. J. Kenner Bell, Clarence D. Moll, and Neil J. Whalen. The following Detroit physicians were admitted as Associate Members: Drs. O. A. Brines, Richard Connelly, Langdon Crane, Thomas Horan, Harold Kullman, Frank S. Perkin, Alvin E. Price, Ivor Reed, Robert Schneek, Lowell Selling, and Hugh Stalker.

Those registered from Michigan at the annual meeting of the College of Physicians were as follows: *Ann Arbor*, Dr. James D. Bruce; *Battle Creek*, Dr. Elmer L. Eggleston; *Birmingham*, Dr. Harold Riche Roehm; *Detroit*, Drs. Samuel S. Altshuler, J. Lee Barrett, J. Kenner Bell, David Clark, Richard C. Connelly, Warren Cooksey, Thomas M. Horan, Charles G. Jennings, Clarence D. Moll, W. L. Lowrie, Jr., Frank R. Henagh, Harold A. Robinson, Elwood A. Sharp, Albert M. Wehenkel R. F. Weyer, and William J. Stapleton, Jr.; *Fenton*, Dr. B. G. McGarry; *Flint*, Drs. Franklin W. Baske, Myrton S. Chambers and Frederick B. Miner; *Grand Rapids*, Drs. Wm. Northrup, Sumner M. Wells, Jr., and Joseph B. Whinery; *Jackson*, Dr. Arthur M. Shaeffer; *Kalamazoo*, Drs. John B. Jackson, Benjamin A. Shepard and Leo E. Westcott; *Lansing*, Drs. Theodore I. Bauer, J. E. McGillicuddy, Milton Shaw and George C. Stucky; *Muskegon*, Drs. F. Herbert Bartlett and Roy H. Holmes; *Petoskey*, Dr. Buell H. VanLeuven; *Pontiac*, Dr. George A. Sherman; *Saginaw*, Dr. Stuart Yntema.

\* \* \*

### The American Association of the History of Medicine

The eleventh annual meeting of the American Association of the History of Medicine was held in Atlantic City, N. J., May 6, 1935. The program was dedicated to the memory of Dr. Joseph P. O'Dwyer, one of the world's greatest medical benefactors to sick children, who fifty years ago demonstrated to a skeptical medical profession improved laryngeal intubation and published his first article on this new and life saving treatment of the severe forms of laryngeal diphtheria.

Through the courtesy of Professor J. W. Crane of the University of Western Ontario at London and Professor Jabez H. Elliott of Toronto, Ontario, there was exhibited both "The Doctor's Bag" in which Doctor O'Dwyer transported his set of frequently used intubation tubes and a complete assort-

ment of the models of all his instruments by means of which he saved, and taught other physicians to save, the lives of hundreds of children sick of laryngeal diphtheria, many of whom would, without the use of the intubation tube, have died a wretched death of strangulation. It was eminently fitting that the address concerning Doctor O'Dwyer and his work should have been made by Professor Chevalier Jackson, who, following O'Dwyer, has originated and popularized another life-saving and health-promoting method of direct vision diagnosis and efficient treatment, namely—bronchoscopy and esophagoscopy.

Officers elected for 1935-1936 are: Dr. W. S. Middleton, Madison, Wisconsin, president; Dr. W. C. Alvarez, Rochester, Minnesota, vice president; Dr. E. J. G. Beardsley, Philadelphia, secretary and treasurer; David Riesman, Gerald Webb, William S. Miller, Edward B. Krumbhaar, Oscar Klotz, Joseph L. Miller and Carl V. Weller, members of the Council.

\* \* \*

### A Tribute to Dr. Manwaring

The May number of the JOURNAL of the Michigan State Medical Society contained an obituary of the late Dr. J. G. R. Manwaring of Flint. In the May number of the *Bulletin* of the Genesee County Medical Society appeared the following splendid tribute to the memory of Dr. Manwaring:

"The Genesee County Medical Society, with profound sorrow and a heartfelt grief, takes cognizance of the death of our fellow practitioner Dr. Joshua George Ross Manwaring.

"In the passing of Doctor Manwaring medicine sustains a great loss. His conception of duty towards the patient, and the faithfulness, the eager energy and the masterful skill displayed in carrying out this fight for restoration to health, had the admiration of his intimate associates and was the radio beam guiding the younger practitioner to high ideals.

"His keen vision, his at times uncanny diagnostic acumen, his cheery smile and the masterful precision of his skillful and fascinatingly interesting hands, are things that we who knew him best can never forget.

"We were the beneficiaries of his ability as a teacher, of his scholarly attainment not only in medicine but in the broader field of economics, politics, and sociology. He at all times had something constructive and well worth while to offer in the solution of our medical problems and he was endowed with the happy gift of speech that rendered even dull statements entertaining.

"We of the medical profession are only a small group who will miss his dynamic personality, the public which he served so well will suffer the greater loss. He not only mastered the Profession but he acquired the Art which is not taught in school or laboratory. Whether it be a municipal problem, a matter of medical economics, or the dire illness of an individual, he did his best with an equal conscientiousness.

"This brief statement setting forth but a few of the many attributes of our beloved friend will be put in a permanent record, expressing the high esteem and admiration in which he was held by all of us."

\* \* \*

### The Wayne County Medical Society Symphony Orchestra

For the past five years numerous fruitless attempts to organize an orchestra in the Wayne County Medical Society were made by a small group of doctors who made music their hobby and avocation. But not until January, 1935, was this attempt crowned with success.



The "spark plugs" were found. An enthusiastic meeting was held, temporary officers elected, proper publicity organized, and within two weeks a full orchestra was formed. But they were still groping in the dark. An able permanent director was needed. One was eventually secured in the person of the enthusiastic and brilliant virtuoso cellist, Mr. Georges Miquelle. He gave his time and energy to the doctors whose friendship he cherishes. He slaved away in shirt sleeves into the wee hours of the night with them to bring out the fine appreciation of music and to iron out the technical flaws which he readily forgave, knowing that this was merely an avocation after strenuous days of energy-trying activity of their daily life. Never ruffled, never impatient, ever smiling and encouraging, he worked on tirelessly.

The orchestra is happy to have lived up to his expectations. He was so pleased with the first public performance that he is planning a series of radio broadcasts for next season when the concerts will be given at the Scottish Rite Cathedral of the Masonic Hall and the Art Institute. When the curtain fell after the debut of the orchestra, Mr. Miquelle in a curtain speech, said: "This was perfect, gentlemen. You are accomplished musicians. You are true artists, and I am with you as long as you want me."

As to the aims, they are simply a desire for cultural development, the true musician's thrill for ensemble playing, and the achievement of perfect relaxation from the stress and strain of daily work in the indulgence of a pleasant hobby. History is replete with the names of doctors—musicians: (1) Billroth, the great surgeon and pianist, a close friend of Brahms, a frequent performer with that great composer in four hand compositions; (2) Helmholtz, another great pianist; (3) Schweitzer, whose pipe-organ playing was equalled only by his skill as a physician; (4) Fritz Kreisler, the great violinist and composer, and many others.

Both Medicine and Surgery as well as music require fine craftsmanship and in the above mentioned men they blended with the very finest precision.

Rehearsals go on weekly. There is no let-up! Plans have been laid for an augmented orchestra for next year with the applications on file carefully considered and acted upon promptly. Permanent officers have been elected and active committees appointed; radio broadcasted concerts to be given several times during the year; programs to be more ambitious and of the unusual type, and to be given in auditoriums where the finest acoustics are available. The orchestra has behind it a well achieved successful performance after only two months' work. There is the thrill of constructive accomplishment. Ahead there is the vista of unexplored fields of musical activity, the treasured hours of work with a brilliant director, and the fine response of our Society members which is the ever-encouraging incentive for our chosen motto: "En Avant!"

The personnel of the orchestra is as follows: director, Mr. Georges Miquelle. *Violin*: Dr. Raphael Altman, Concert Master; Dr. Jack Agins, Dr. John Bryce, Dr. C. R. Davis, Dr. H. C. Galantowicz, Dr. Samuel Jacobson, Dr. Ezra Lipkin, Dr. D. Annessa Marcelli, Dr. Leon Ruttenberg and Dr. S. S. Skrzycki. *Viola*: Dr. Max Beitman. *Cello*: Dr. Eugene Osiusand, Dr. William P. Woodworth. *Piano*: Dr. Frank MacKenzie. *Saxophone*: Dr. E. W. Krass and Gerald Wilson, Jr. *Clarinet*: Dr. G. C. Burr and Dr. Roy Tupper. *Trumpet*: Drs. Arthur E. Hammond, Gerald A. Wilson, Paul Walker and Miss Phyllis Hyde. *Flute*: Dr. George H. Palmerlee. *Trombone*: Dr. Fred W. Hyde and Fred Hyde, Jr. *Percussionist*, Dr. Harold C. Kahn.

The personnel of the glee club is as follows: Director, Mr. Arthur H. J. Searle. *First Tenors*: Drs. L. E. Crick, Edwin J. Hammer, and R. W. Lignell. *Second Tenors*: Drs. Jack Agins, L. Goldonyi and Douglas Jackson. *Baritones*: Drs. John N. Solowich, Leo Rennell and Harry A. Pearse. *Basses*: Drs. Carleton Fox, Paul Brownell, F. T. McCormick and Frank MacKenzie. *Accompanist*: Dr. Frank MacKenzie.

The officers for 1935-1936 are: President, Dr. Frank MacKenzie; Vice President, Dr. William P. Woodworth; Secretary, Dr. Jack Agins; and Treasurer, Dr. Arthur Hammond.—*Contributed*.

\* \* \*

### The Detroit Oto-Laryngological Society

The meeting of the Detroit Otolaryngological Society of April the twenty-fourth was of more than local as well as of usual interest. The event was the twenty-fifth anniversary of the founding of the society. While designated the "Detroit" society, it includes members from pretty much over the state of Michigan. The Silver Jubilee Banquet was held at the Recess Club in the Fisher Building, Detroit, when members and guests met to honor the founders of what is now the largest organization of its kind, having 106 active members, of which 26 are from outside of Detroit. Of the 20 men who formed the association in 1910, eleven, all those living, were present at the banquet.

Dr. Robert F. Ridpath, of Philadelphia, was the guest of honor and spoke on "Voice Production." He demonstrated with lantern slides and moving pictures.

Dr. Emil Amberg, Dr. Burt R. Shurly and Dr. Don M. Campbell were the other speakers of the evening.

Among the features of the evening was the musical program which was given by the orchestra composed of members of the Society. Dr. Frederick Munson sang several solos and led the group singing, including the song written by Dr. J. M. Sutherland which contained the names of all the founders.

There were over 90 present, including Dr. Austin Hayden, Treasurer of the American Medical Association and President of the Chicago Medical Society, Dr. Joseph Beck, Professor of Otology of the University of Illinois, and Dr. A. C. Furstenberg, Dean of the University of Michigan Medical School.

As intimated, the society was founded in 1910 by the following members (the asterisks indicate deceased founders): Drs. Earnest L. Shurly,\* Emil Amberg, Robert Beattie, Don M. Campbell, Learthus Connor,\* George E. Frothingham, Robert W. Gilman, Louis J. Goux,\* Henry J. Hartz, Preston M. Hickey,\* Peter J. Livingstone,\* Richard E. Mercer, Stanley Miner, Walter R. Parker, Herman H. Sanderson, Burt R. Shurly, Eugene Smith, Sr.\* Wadsworth Warren, Sr.,\* John V. White,\* Harold Wilson.\*

The membership at the present time consists of resident members as follows: Drs. Emil Amberg, Robert E. Anslow, C. S. Ballard, S. E. Barnett, Robert Beattie, Wm. J. Beery, Howell L. Begle, Neil I. Bentley, Edward J. Bernstein, John R. Birch, A. O. Brown, C. F. Brunk, Don M. Campbell, Duncan A. Campbell, Mac D. Campbell, J. M. Carter, T. Percy Clifford, Don A. Cohoe, James Croushore, W. A. Defnet, J. L. Dill, Arthur Erkfitz, William Fowler, George E. Frothingham, John E. Gleason, B. F. Glowacki, William S. Gonne, Raymond S. Goux, H. E. Grant, Lee E. Grant, Arthur E. Hammond, Voss Harrell, Ray W. Hughes, B. H. Jenne, Euclid V. Joinville, Thomas F. Keating, George C. Kreutz, R. Lee Laird, John W. Law-

son, Chas. B. Lundy, Harold U. Mair, Elbert A. Martin, Richard E. Mercer, Charles C. Merkel, Wm. O. Merrill, Stanley G. Miner, Willard Monfort, J. B. Morton, Frederick T. Munson, G. L. McClellan, Carl C. McClelland, H. W. MacFarlane, Walter R. Parker, Howard W. Pierce, Ralph H. Pino, John E. Pittman, Edgar E. Poos, Wilson Randolph, Wesley G. Reid, James Milton Robb, LeRoy W. Rubright, Frank L. Ryerson, Hermon H. Sanderson, Burt R. Shurly, H. Lee Simpson, W. S. Summers, J. M. Sutherland, Wilbur J. Voorheis, Wadsworth Warren, Jr., Jacob S. Wendel, E. L. Whitney, A. P. Wilkinson, Wesley W. Willson, Wm. P. Woodworth.

*Non-resident Members.*—Drs. Fred A. Baker, Pontiac, Michigan; Wm. G. Bird, Flint; Fred J. Cady, Saginaw; Benton N. Colver, Glendale, California; Charles W. Ellis, Lansing; Robert C. Fraser, Port Huron; Robert H. Fraser, Battle Creek; C. B. Fulkerson, Kalamazoo; A. C. Furstenberg, Ann Arbor, E. G. Galbraith, Toledo, Ohio; Wilfred Haughey, Battle Creek; Don M. Howell, Alma; Wm. B. Hubbard, Flint; Bertil Larson, Pontiac; E. O. Leahy, Jackson; James H. Maxwell, Ann Arbor; Esli T. Morden, Adrian; Wm. E. McGarvey, Jackson; Oliver McGillicuddy, Lansing; H. M. Parker, Monroe; John Walter Orr, Flint; Arthur E. Owen, Lansing; Ferris N. Smith, Grand Rapids; R. S. Watson, Saginaw; Carl G. Wencke, Battle Creek; Herbert Westervelt, Benton Harbor; Edward P. Wilbur, Kalamazoo; George E. Winter, Jackson.

*Honorary Members.*—Henry J. Hartz, Detroit, Michigan; Robert Gilman, Detroit, Michigan; J. C. Huizinga, Holland, Michigan, and Charles H. Baker, Bay City, Michigan.

\* \* \*

**Dr. Sibrand Lups' Monograph Concerning "Chronic Ulcerative Colitis"—An Appreciation Of Its Translation Into English by Dr. Abel J. Baker**

Under the above title appears an editorial in the current issue of the *American Journal of Digestive Diseases and Nutrition*.

We quote briefly from the editorial in which the editor acknowledges his indebtedness to the translator, Dr. Abel J. Baker of Grand Rapids, Michigan.

"When Dr. Lups' monograph reached us, an immediate—and, for a time, puzzling—problem presented itself, namely, that of adequate translation by a trained, capable internist. Even on the faculties or staffs of our widely known schools, clinics or hospitals it was not possible to uncover the person whom we felt the task demanded: an internist of standing who also was scientifically solid and who, though an American, read (and could think in) 'Holland Dutch' as a language twin to his American.

"In this quandary, happily the editor recalled the capabilities of a former classmate, Dr. Baker. How thoroughly and faithfully Dr. Baker has performed his task, the printed article demonstrates far more eloquently than could any words of ours.

"Dr. Baker has given the American literature a contribution which not alone most eminently is worth while, but he has allowed physicians and scientists of these Western lands a glimpse of what investigative efforts are being carried on by such well grounded, careful students and clinicians as are connected with the institutions of Holland."

This new journal, the official publication of The American Gastro-Enterological Association, just now entering its second year, has already found a place for itself in the "special journal" field. In make-up and in contributions, the April Journal is unusual in its excellence. Your attention is especially called to the leading article, "Vaccine Therapy in

Ulcerative Colitis," by Dr. Lups. The x-ray illustrations made from the original copper plates are as fine as anything that has ever been published. Your attention is also called, if the magazine is available to you, to a lengthy article in the editorial columns by Walter C. Alvarez of Rochester, Minnesota, under the title "Is The Public Being Stamped In Regard To Vitamins?"

The congratulations of this JOURNAL are extended to Dr. Frank Smithies, editor of the *American Journal of Digestive Diseases and Nutrition*, for the development of a valuable and interesting journal in a field not heretofore adequately covered.

## THE DOCTOR'S LIBRARY

*Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.*

**A TEXTBOOK OF BIOCHEMISTRY:** Edited by Benjamin Harrow, Ph.D., Associate Professor of Chemistry, The City College, College of the City of New York, and Carl P. Sherwin, M.D., Sc.D., Dr.P.H., LL.D., Member of the Staff of St. Vincent's Hospital and French Hospital, New York City. 797 pages with 52 illustrations. Philadelphia and London: W. B. Saunders Company, 1935. Cloth, \$6.00 net.

The success of a work of composite authorship such as this depends on the organization and on the ability of the various authors. Such a book is bound to have sections which are treated less skillfully than others, and it cannot fail to lack the uniform viewpoint of a single author. As much as these factors are desired in a book, biochemistry has grown so rapidly that one man cannot encompass the field efficiently. An up to date biochemistry must be composite.

Among its thirty authors are outstanding authorities in biochemistry, such as Bloor, the Cori's, Eggleton, Luck and McCollum. English biochemists as well as American are included in the list of writers.

Unlike most texts, the usual chapters on colloidal and physical chemistry are omitted. These subjects, however, are well treated in the chapters on proteins and amino acids, where they especially apply. The first chapter on the living cell by Robert Chambers is followed by sections on food substances and cell constituents, nutrition, vitamins, enzymes and digestion. Chapters on the biochemistry of bacteria and immunology, on blood, respiration and pigment follow. A number of chapters deal with the biochemistry of tissue and with metabolism. Each chapter is accompanied by about fifty references.

For use as a textbook, the work is probably too compendious to be followed consistently in a course, but it is easily adapted for selected readings. As a reference, it is exceptional, all points being immediately available through a complete index. The work will undoubtedly prove a distinct addition to biochemical literature.

**FOOD FOR THE DIABETIC, What to Eat and How to Calculate it with Common Household Measures.** By Novy Pascoe Huddleson, Editor Journal American Diabetic Association. With an introduction by William S. McCann. Dewey, Professor of Medicine and Dentistry. Third Revised edition. New York. The Macmillan Company. Price \$1.50. 1934.

This is essentially a book for the diabetic patient, giving him the information in regard to nutrition that he should have. It contains none of the technical knowledge that is properly the equipment of the physician. The matter of preparation of food is taken up in a clear and practical way. Physicians with intelligent diabetic patients will find it valuable in the management of diabetic cases.



# THE JOURNAL

OF THE

## *Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOL. 34

JULY, 1935

No. 7

### THE TRAGEDY OF APPENDICITIS\*

C. D. BROOKS, M.D., F.A.C.S.†  
DETROIT, MICHIGAN

It is considered of sufficient importance to again discuss the subject of appendicitis, when more than twenty thousand persons die each year from this disease. Approximately sixty-five per cent of the people who die from appendicitis are between the ages of fifteen and thirty. This makes it a more serious problem than if it attacked the people in the later decades of life, although it does not lessen the responsibility of the physician.

What is the reason for the high mortality? Why is the death rate not materially lessened, when people are becoming better educated in medical matters and have so many opportunities to familiarize themselves with medical matters pertaining to their health, and to the details of prophylaxis, diagnosis and treatment?

Appendicitis cases, especially acute cases, are usually seen first by the family physician, and his is the great responsibility. The surgical treatment of these cases is often not in the hands of experienced surgeons, but successful operations have often been performed by those with very little experience, and if an early diagnosis is made and an operation done by a conscientious, young, but not too experienced surgeon, the result will be better than when late operations are performed by the most experienced surgeons.

The fact should be firmly fixed in the mind of the medical profession that appendicitis is a surgical disease. An important

factor in the high death rate is oft times the meddlesome treatment given by relatives or used by patients themselves for abdominal pain. Probably the most pernicious of these methods is the use of cathartics. Cathartics taken by the patient are not as dangerous as those given by the medical attendant, for the patient usually takes it at the onset of the attack of pain. But when it is given by the physician it is usually given several hours after the onset of the attack, the appendix may be friable and distended, and local peritonitis be present, then we see an acute localized appendicitis become a diffuse peritonitis, caused largely by the use of cathartics.

We believe it would be a good thing for physicians to instruct their patients never to take a cathartic or never to give their children a cathartic in the case of moderate or severe abdominal pain, without first consulting their medical attendant.

Another harmful and dangerous procedure is the use of the ice bag for patients who have acute abdominal pain. We do not believe the ice bag is of any value in the treatment of acute appendicitis, but is

\*Read before the Wayne County Medical Society, February 11, 1935.

†Dr. Clark D. Brooks is Associate Professor of Surgery, Medical Department, Wayne University, and Attending Surgeon, Harper Hospital, Detroit.

an agent of delay, and masks the symptoms. It may relieve the pain, but it does not stop the progress of the disease. Patients often apply an ice bag themselves, or are advised over the telephone by a physician to apply one, and they are lulled into a false security by the feeling that something is being done, whereas the infection in the appendix goes right on with its ravages, and the result is acute peritonitis.

Another dangerous procedure in the diagnosis of appendicitis is to depend too much upon the blood count. It is much more important to secure a careful clinical history of the disease from the patient, than to lose time on blood counts and repeating blood counts, for in many cases the appendix could have been removed at once, without the onset of complications. The writer is aware that the blood count in nearly all cases of acute appendicitis is elevated, especially the polymorphonuclear count; the patient may already have a gangrenous or perforated appendicitis. The average blood count accompanying appendicitis when the appendix is not in the usual position over many hundreds of cases will be from 10,000 to 14,000 total white cells, and the differential count from 75 to 86 per cent polys.

There are three or four quite common positions for the appendix to occupy and it is important for the physician to familiarize himself with these positions, and not to expect always to find muscle spasm over McBurney's point: (1) High rectus position, occupying the right kidney fossa; (2) low right position, where the appendix is walled off, and pain and spasm are near the crest of the ileum; (3) the so-called, pelvic appendicitis where the appendix is under the bladder low in the right lower quadrant, three or four inches below the normal position; (4) the appendix which occupies the left lateral position where the cecum may be rotated toward the left, and the tenderness in such a position will be well over to the left side of the abdomen. In all of these unusual positions, the symptoms will vary. They usually do not have vomiting until after peritonitis begins. The abnormal positions also make a very nice point for differential diagnosis which must be carefully made. If physicians would always keep in mind that in acute appendicitis of the severe types, instead of symp-

toms of pain, nausea or vomiting, and spasm over the site of the appendix, the patient may give only a history of having low grade abdominal pain with no nausea or vomiting, and with an almost normal leukocyte count. In our experience there is one sign that we think is almost infallible, and that is the local spasm, found by careful examination. We have never failed to elicit such local spasm if the patient has a well marked acute appendicitis. Subacute symptoms in many of these patients will be more or less abdominal pain, which may be a low grade pain and may seem inconsequential. The ice bag destroys this very valuable symptom.

Temperature from 99 to 101 is usually found in severe cases within twenty-four hours, but may be found normal in early severe cases.

In many cases, especially those retrocecal or in the right iliac fossa, a patient's pain may be so vague that he will not call in his physician until it has been present for two or three days, but it will be found that he has a well marked local spasm, if a careful examination is made.

Nausea and vomiting are found in from 60 to 70 per cent of acute cases, especially in young people, but many other cases have only the symptom of abdominal pain, and if the local spasm is there on examination the physician will make no mistake in diagnosis.

When a diagnosis has been made of acute appendicitis removal of the appendix before complications ensue is always advisable. In cases where there is a general infection present, where the patient's illness may have begun with a sore throat or general malaise, which may accompany epidemic infections especially in the winter time, and when the temperature is over 100, then appendix symptoms may be due to secondary involvement of the appendix and the general infection is really the cause of the patient's symptoms. Such patients should always be treated as appendix suspects, avoiding cathartics, avoiding all food until repeated examinations have been made. Many lives will be saved if all such cases are treated as appendicitis suspects.

We always advise internes who have come direct from the medical schools, to first consider appendicitis where there is abdominal pain. We advise them to make



a careful examination, and if the diagnosis is appendicitis, the appendix should be removed before it becomes gangrenous or ruptures. Then the mortality instead of being over twenty thousand a year would not be one-tenth of that.

The most important symptom in unruptured cases is that of pain localized over the appendix, no matter what its position. The often present sign of a ruptured or gangrenous appendix is that of repeated nausea and vomiting, and increased spasm with frequently chills or chilly sensations. If the patient has been examined by the physician previously and local tenderness and spasm found, a later examination will reveal that this area of spasm has increased. Patient may then have retraction of his right leg, and the position will be one where he is trying to favor his affected side, and the onset of a chill shows the presence of spreading infection, and is always considered a dangerous symptom.

If an operation can be performed for acute appendicitis within twenty-four to thirty-six hours from onset, in a good hospital, by a fairly well trained surgeon, the mortality risk is practically nil.

Mortality rate is highest in operations for acute appendicitis with complications, that are performed on the third or fourth day or later in the disease. The management of late cases of associated peritonitis, either local or general, is very important. It seems advisable to withhold operations on patients with marked distention, who have vomiting, and with temperature over 101, who have been sick several days. We believe that these desperately ill patients with complications of appendicitis should be treated medically, and later have an appendectomy. Withhold everything by mouth, cathartics, food and water. Intravenous glucose and intravenous or subcutaneous saline solution is freely used. If possible the patient should be taken to a well equipped hospital, as the necessary treatment can not be so well carried on at home.

The coöperation of a graduate nurse is important. Drainage of stomach and duodenum by a Levine tube inserted through the nose, has done more than anything else for desperately ill patients. We not only use the Levine tube for drainage but to instill small dosage of hypertonic salt solution or glucose for the stimulation of the

patient. If this is given in small amounts, one or two ounces at a time, it will not stimulate peristalsis, but will aid in maintaining the normal tone. The Fowler position is always used. We recommend changing the duodenal tube every twenty-four or thirty-six hours and vaseline should be applied to both nostrils every four or six hours. Hot massive packs should be placed over the entire abdomen. We do not advise the use of turpentine stupes, unless they are used by a competent nurse, or unless the doctor is seeing the patient frequently. All enemata are prohibited. A rectal tube may be inserted and left in situ. A small tube acts well and irritates the patient less than a large tube. Hypertonic salt solution 2 per cent or 10 per cent may be tried in the rectum, not giving over two or three ounces. This will aid in the expulsion of flatus. It is surprising how quickly very desperately ill, even dying patients improve under this regime. We do not advise operation for four to eight weeks in these cases, but do consider it of the utmost importance that the appendix be removed at the end of that time, to avoid any repetition of such an attack. The above treatment is very important for obese patients on whom operation cannot be performed in the presence of diffuse peritonitis.

It is especially important in children, elderly people and obese patients to have an early operation, before complications set in, as they do not stand peritonitis well. A case of gangreneous appendicitis which might be of moderate severity in a thin young healthy person, might have a high mortality rate in children, elderly people or the obese. In these late cases who improve after medical management, we should not operate on patients who are having well localized abscesses.

When cases are suitable, excepting in very young children and very old people, spinal anesthesia is the safest and the best anesthesia for operations for acute appendicitis. For children under twelve years old, we usually advise gas and ether. People in the seventies if there is any question of bronchial asthma or any tendency to bronchitis, local anesthesia is used and is very satisfactory. It is surprising what easy relaxation can be secured with spinal anesthesia, and what an easy operation for

acute appendicitis can be done on these patients. We can do more satisfactory work with an incision half as large, as with the use of other anesthetics. Packs should be avoided in the peritoneal cavity as much as possible, as packs pushed about in the peritoneal cavity may spread infection and cause spread of local peritonitis by injury to the visceral peritoneum. In the cases of local abscess or diffuse appendicitis where the appendix is perforated we have for a long time advised against the use of rubber tube drainage. However, if the appendix is ruptured less than twenty-four hours no drainage is used in some patients. If the appendix has ruptured and fecal concretions are found in the abscess cavity then drainage is advised. The use of soft rubber drainage tissue is very satisfactory, we no longer use stab drains or multiple incisions, and never use gauze packs. If possible a piece of the omentum can be brought down to the incision, and this will be found to be the best method of drainage in very seriously ill patients. Sometimes we leave the incision entirely open using no sutures whatsoever. Many of these patients do remarkably well, and in most of them the incision will begin healing after a few days when the soft drains are removed. If sutures are used, every surgeon of experience will recall many cases where the infection has been spread to fascia, muscle and fat along the suture line.

After operation this type of patient has the same treatment postoperatively, namely, Fowler's position. The distention is treated by cecostomy, inserting a small size No. 20 French catheter with two openings, ends removed, inserted through cecum into the terminal ileum, held in position with No. 0 or No. 1 chromic catgut sutures. I do not recall any case where fistulae occurred after this procedure.

Enterostomy is often life saving. The enterostomy tube can be used for hypertonic saline solution and instillation of glucose which is usually begun four to six hours after the operation. The tube is clamped between periods of instillation.

First we allow the tube to be emptied in a small sterile basin, then with a glass tube using a small pitcher two or three ounces of saline or glucose and saline mixed is allowed to flow into the glass tube attached to the enterostomy tube. The tube is then clamped off for two or four hours, then gas and fecal matter are allowed to escape. This procedure is kept up for two or three days, or as long as necessary. The catheter usually drops out the seventh to tenth day. This part of the technic alone has saved many lives, and more lives would be saved by early enterostomy, which in our experience never does any harm, but delayed enterostomy like delayed diagnosis is one of the chief reasons for the high mortality rate.

Morphine is valuable for patients who are too sick to have operation, or are to have delayed operation, and also for patients who have been operated upon in dosage of  $1/6$  grain morphine every three or four hours if necessary. It does not cause paralysis of the bowel but acts as an aid in restoring normal tone. Hot packs used especially as pre-operative treatment are also continued after operation.

Pitressin is given on the operating table, one ampule and repeated every three or four hours for twelve or more doses. Also an ampule of combined tetanus gas gangrene vaccine immediately following operation in all perforative cases. These agents are invaluable in the surgeons' armamentarium.

It often happens that physicians are called late, where they find evidence of peritonitis, and there has been no history of appendicitis so far as can be determined. The writer wishes to call especial attention to the above types of appendicitis, as factors in causing peritonitis. Early diagnoses and early operation in all patients with severe appendicitis will markedly lower the mortality rate.

Careful and individual attention to details preoperatively and post-operatively and a careful surgical regime are important factors in the care of the seriously ill patient.



## LIVER DEATHS FOLLOWING SURGERY OF THE GALLBLADDER\*

HERBERT W. HEWITT, M.D.†  
DETROIT, MICHIGAN

Recently many articles have appeared in medical literature upon the so-called "Liver Deaths" or "High Temperature Deaths" following operations upon the biliary tract. Before discussing the pathology of this type of case, however, we should consider briefly the physiology of the liver, to discern, if possible wherein any fault of hepatic function might be responsible for a fatal outcome. The known functions of the liver may be enumerated as follows: (1) The secretory or excretory, viz.—bile; (2) the metabolism of (a) protein, (b) fat, (c) carbohydrates, (d) bile pigments; (3) the storage of glycogen; (4) the maintenance of the normal blood sugar level; (5) the detoxifying function; (6) phagocytosis; (7) destruction of erythrocytes; (8) the control over blood clotting.

It is obvious that interference with the excretion of the bile, the digestion of protein, fats, and carbohydrates, or the storage of glycogen, or the maintenance of the blood sugar level and other minor functions, will not cause sudden death following operation. This leaves the function of detoxification alone to be considered.

Shutz, Helwig, and Kuhn<sup>10</sup> have reported four cases of "liver deaths" in which clinical and autopsy studies have revealed definite reasons for early death following operation upon the biliary tract. The principal points in their case histories briefly stated were as follows: (1) Long standing gallbladder disease; (2) postoperative high rise in temperature and pulse rate; (3) progressive oliguria with albumen, casts and erythrocytes in the urine followed by (4) anuria, delirium, coma and death within forty-eight hours.

*Necropsy* revealed: (1) Low grade generalized edema; (2) operative wounds showing little or no healing; (3) gastro-intestinal tract containing blood in large amounts; (4) liver showing leukocytic infiltrations, necrosis, interstitial parenchymatous and fatty changes; (5) kidneys revealing parenchymatous swelling, tubular epithelial degeneration and actual necrosis.

In their cases, they believe there was no impairment in glycogenesis as revealed by blood sugar determinations; no evidence of failure to deamidize amino acids, since urea

formation was unhampered; excretion of bile was not interfered with because bile was found in the stools in every case. They arrived at the conclusion that the damage to the kidneys was caused by some toxin elaborated by the diseased liver which acted specifically upon the kidneys.

Stanton<sup>8</sup> has reported 500 fatal cases in 10,000 gallbladder operations in which fifty-eight individual causes were designated as the lethal factor. The principal causes of death given in the order of their frequency were: (1) Peritonitis, (2) pneumonia, (3) embolism, (4) cardiac failure, (5) spontaneous perforation, (6) sepsis, (7) renal failure, (8) shock and hemorrhage.

Heyd,<sup>6</sup> commenting upon Stanton's classifications, states "that in analyzing our cases we were impressed with a small group of fatal cases in which the cause of death could in no way be placed in such obvious types of mortality. There was about this group of cases an unexplained chemical mechanism as the outstanding feature in the production of death which was directly sequential to operative intervention. Chemical examination of the blood revealed a normal icteric index and a gradual ascending scale of urea nitrogen. Clinical examination of the lungs gave no evidence of pneumonia. These patients died within thirty-six hours."

In the two cases herein presented, careful physical and laboratory examinations were made. There appeared to be no doubt that these patients were in good physical condition for the operation. The surgical procedure required a comparatively short time, and no complications arose during the operation. Both cases were drained. Post-operatively, there was no hemorrhage, peritonitis or immediate shock. Each case developed a high temperature with rapid pulse,

\*Read before the Grace Hospital Staff, June 11, 1934.

†Dr. Herbert W. Hewitt was graduated from The Detroit College of Medicine and Surgery in 1903. He is Attending Surgeon to Grace Hospital, Consulting Surgeon to the Detroit Receiving Hospital and the Woman's Hospital. He limits his practice to General Surgery.

oliguria, anuria, delirium, coma, and death within forty-eight hours. These cases are similar to many others that have been reported.

Evarts Graham, several years ago, began the use of phenoltetraiodophthalein as a test for liver function preparatory to operation upon the biliary tract. While it is true that due to the multiple functions of the liver, there is no one test which is accurate or all inclusive in the estimation of liver function, nevertheless, Graham finds in the use of this dye the possibility of determining with reasonable accuracy the cases which will bear operation well, and those where operation will probably prove serious, if not fatal.

He concluded that when a dye retention above 35% was present (readings taken one half and one hour after the injection of the dye) it was found best to postpone operation and during the intervening period to administer as much glucose and saline solution by proctoclysis and hypodermoclysis as the patient could comfortably retain. Then after a few days the test was repeated and if it was found within normal limits, cholecystectomy was performed; otherwise, operation was again postponed. In this manner Graham has reduced his mortality in this type of case from 7 per cent to a fraction over one per cent. Operative mortality according to available figures in the literature indicate a death rate ranging from 2.2 per cent to 5.3 per cent. If such a test as Graham's can reduce these figures to one per cent it is certainly worthwhile. (It should be stated that the test should not be used in acute cholecystitis or when the patient is jaundiced.)

It has been mentioned above that the liver has many functions and that the dye retention test is the test for one function only, namely, detoxification. Other tests for liver function are:

1. Galactose tolerance test for glycogenic function.

2. The determination of lactic acid in the blood. Increase in this acid indicates rapid destruction of glycogen and also an early toxemia. It is especially useful as a prognostic acid in patients whose condition is complicated by jaundice.

3. The amino acid test for protein.

4. The van den Berg and icterus index

tests to determine the bilirubin content of the serum and which relate only to bile metabolism.

5. The test of Harrop-Barron for bilirubin retention.

6. The cholesterol ester test. It has been stated that the estimation of cholesterol runs parallel to the severity of the liver damage as indicated by the clinical signs and the various tests of liver function.

7. The cinchophen test is stated to be an excellent test for altered metabolism of the liver cells. Of the cinchophen and bilirubin tests, Weiss states that he has found these two tests among the most reliable in estimating the functional capacity of a slightly damaged liver.

8. Blood clotting index, indicating abnormalities of blood coagulation which may be due to liver dysfunction.

I wish to present two case histories bearing upon the problem of the unexplained deaths following surgery upon the biliary tract. These histories are as follows:

*Case 1.*—Mrs. D. P., aged sixty-seven, widow, had an operation in 1914, for empyema of the gallbladder, cholecystostomy with removal of one small calculus, also a ventral fixation and perineorrhaphy in 1917. She was well following cholecystostomy until one year ago when she developed attacks of vomiting and diarrhea, with pain over the gallbladder region. During the past two weeks she has had a fever, but no chills. Physical examination reveals tenderness over gallbladder. The heart and lungs are negative; blood pressure systolic 180, diastolic 140. Urine negative. Blood coagulation time, 3 minutes, 45 seconds; hemoglobin, 93 per cent; erythrocytes, 4,380,000; leukocytes, 8,000; polymorphonuclears, 70 per cent; small lymphocytes, 25 per cent; large lymphocytes, 5 per cent. Temperature, 98°; pulse, 86 on morning of the operation. Clinically, this patient appeared to be in excellent condition for operation. Cholecystectomy was performed March 13, 1919. A distinctly diseased gallbladder was found, with adhesions to the duodenum. Operation required only thirty minutes' time with no immediate postoperative shock. Her temperature rose to 103.6°, sixteen hours after operation, with a corresponding rise in pulse rate and she died at the end of twenty-four hours. No autopsy was permitted.

*Case 2.*—Mrs. A. B., aged forty-five. The family history was negative. She had had mild attacks of colitis with symptoms of cholecystitis for several years; also pain over gallbladder region with occasional vomiting. She was sent to Grace Hospital where she was placed under medical management for several weeks, including duodenal drainage with a Rehfuß tube. Medical treatment produced no improvement. Gastro-intestinal x-ray examination was negative. Urinary and blood findings were within normal limits; the blood pressure averaged 130/80; heart and lungs negative; temperature 98°, pulse 70 on the morning of operation. The operation was performed on the morning of February 9, 1927. Cholecystectomy and appendec-



tomy were performed. The gallbladder was yellowish-gray in color, twice normal size with a thickened wall, adherent to the stomach and duodenum, but contained no calculi. The liver was macroscopically normal. The appendix was held down by a short mesentery, but no adhesions or other evidence of chronic inflammatory change was noted. Operation time was thirty-five minutes. This patient did well for the first 24 hours, then followed delirium with high temperature (107°), oliguria, anuria, uremia, coma, and death at the end of forty-eight hours. N. P. N., on February 10, was 49 mg% per 100 c.c. On February 11, urinalysis revealed a trace of albumen with pus, R. B. C. and granular casts. Both these patients were in excellent physical condition prior to operation.

The question arises as to the cause of death in the two cases. Unfortunately, autopsy was not permitted in either case and postoperative life in both instances was so brief that little time remained for clinical observation or laboratory tests.

The purpose of presenting these cases at this time is to stimulate free discussion and interchange of opinion, in the hope that some definite plan for a more careful study of all cases of cholecystic disease before operation may be formulated. For a surgical procedure so simple as the average cholecystectomy it has always appeared to me that the mortality has been too high. During the past few years I have been convinced that there has been some interference with the chemical mechanism of the liver which has been responsible for the so-called "liver deaths." The great difficulty has been to determine the functional efficiency of the liver prior to operation. In this connection Judd<sup>7</sup> states, "anatomically the liver is of special interest in surgery because it is a single vital organ and because it has a double blood supply. Physiologically it is important because of the multiplicity of its metabolic functions. Pathologically it is important because it is subject to many diseases of infectious, of vascular, metabolic and neoplastic origin. Surgically it is important for all these reasons."

Heyd,<sup>8</sup> in 1930, wrote, "in any laparotomy, with or without exposure of the liver, there are a great many possible physical, chemical, infectious, mechanical and toxic traumatic plus possible leakage from drainage plus varying degrees of dehydration. The sum total of these surgical accompaniments may not necessarily be lethal to the ordinary, fairly normal surgical subject, but may often prove fatal to the handicapped patient or the patient with a depressed or impaired liver competency.

Deaver,<sup>1</sup> Eiss,<sup>2</sup> Graham,<sup>3</sup> Helwig,<sup>4</sup> Schultz,<sup>9</sup> et al., have also written upon this subject. In the treatment of liver dysfunction, the administration of large amounts of carbohydrates is of special importance. For many years it has been recognized that the depletion of glycogen, stored in the liver, definitely reduces its functional efficiency and that the administration of carbohydrates and the building up of the glycogen store of the liver, hastens repair of liver damage. Therefore, it would seem best in all cases, first to determine the function of the liver by tests already known, then to administer large quantities of glucose or dextrose without the use of insulin, and to combat dehydration by the use of known quantities of fluid. Therapy should be controlled by the repeated chemical analyses of the blood. Blood chlorides should also be estimated and if as low as 250, saline should be given intravenously.

One other factor is the selection of a proper anesthetic. Anesthetics which produce anesthesia by rectal or colonic administration carry with them the possibility of increased insult to liver physiology. Spinal anesthesia does not add additional trauma to the liver but is not always satisfactory and is not without danger. Nitrous oxide gas, with the addition of small quantities of ether plus local anesthesia is, in my opinion, the safest type of anesthesia. Blood transfusion and the intravenous administration of calcium chloride are at times valuable in the preparation of patients for operation.

The study of liver function easily becomes a large field for research. When we are able to estimate the liver function more accurately, not only will surgery of the biliary tract, but all surgery, and especially intra-abdominal surgery, be placed upon a much safer basis.

In conclusion I would like to stress the following as safety factors:

1. Careful routine examination of the patient before laparotomy, including indicated laboratory procedures, for the purpose of ascertaining adequate liver function.

2. Maintenance of normal water balance and blood chlorides.

3. Protection of liver function by the increase of the glycogen reserve of the liver.

4. Blood transfusion and intravenous calcium chloride when necessary.

5. An anesthetic which will not cause additional damage to an already overburdened liver.

6. A carefully performed operation, done in a reasonably short time.

### References

1. Deaver, John B., Trans. Amer. Gastro-Enterol. Assn., 32:463, 1930.
2. Eiss, S.: Amer. Ann. Surg., 98:348, 1933.
3. Graham Everts: Ill. Med. Jour., 60:197, 1931.
4. Helwig, F. C.: Amer. Jour. Surg., 19:462, 1933.
5. Heyd, Charles G., Amer. Jour. Obstet. and Gyn., 19:203, 1930.
6. Heyd, Charles G., J. A. M. A., 97:1847, 1931.
7. Judd, E. S., Ann. Surg., 90:1035, 1929.
8. Stanton: Quoted by Heyd, J. A. M. A., 97:1847, 1931.
9. Schultz, C. B.: J. A. M. A., 99:633, 1932.
10. Schutz, Helwig and Kuhn: J. A. M. A., 99:633, 1932.

## THE FEEDING OF THE PREMATURE INFANT\*

HAROLD B. ROTHBART, M.D.†

ANN ARBOR, MICHIGAN

The feeding of premature infants should be a simple and easy procedure but must be carried out intelligently. Of all periods of life this is one in which errors of omission and commission are of serious import. One may experiment and leave for nature to tide over an older infant but not so with the delicate premature baby who demands the most exact and specialized care. Though this is necessary one need not be a specialist to know how to handle these cases.

In the past decade the mortality rate among premature babies has been considerably decreased, so that now rates varying from 20 to 35 per cent are not unusual but rather the rule as compared with the previous much higher rates. Variation in period of gestation and weight of the infant determine, to a large degree, the prognosis of the individual case, yet the careful regulation of the feedings undoubtedly plays a significant and important rôle.

There are many types of milk aside from breast milk that one may use in feeding premature babies. Methods of feeding vary but there should be constancy, in following those adopted, upon which much of the success obtained depends, providing they meet all other requirements.

I present a very simple regime now in use at the Cook County Children's Hospital in Chicago, which has given uniformly good results. We believe that our success was largely due to adhering closely to a stereotyped schedule except on occasions where some changes had to be made. Such occasions were rare. Of 274 consecutive premature babies admitted to Dr. Blatt's service, over a period of twelve months,

there was a total mortality rate of 32.5 per cent. Excluding twenty-four hour deaths it was 21.6 per cent (Table I).

TABLE I.

Month	Admissions	Total Deaths	24 Hour Deaths
Aug., 1933	18	6	2
Sept.	18	7	1
Oct.	19	5	3
Nov.	28	7	1
Dec.	26	5	1
Jan., 1934	24	7	2
Feb.	16	4	2
Mar.	27	8	5
Apr.	23	12	6
May	26	10	4
June	24	12	8
July	25	6	3
Total	274	89	38
Mortality		32.5%	13.9%
Excluding 24 hour deaths—		21.6%	

All premature infants born at the Cook County Hospital are immediately transferred to the Pediatric service and placed in the premature station. Nothing is given to the infant for the first twenty-four hours, and then he is offered 2 c.c. of boiled water or weak tea, alternating at one and one-half hour intervals with the same amount of breast milk. The amount of each feeding is gradually increased so that by the end of the second twenty-four hours, he is

\*From the Cook County Children's Hospital, Chicago and the Department of Pediatrics, University of Michigan, Medical School, Ann Arbor, Michigan.

Presented before the University of Michigan Pediatric and Infectious Disease Society, Ann Arbor, November 23-24, 1934.

†Dr. Harold B. Rothbart was graduated at the University of Toronto Medical School in 1930. He is Instructor in Pediatrics and Infectious Diseases, University of Michigan Medical School.



receiving 15 c.c. of breast milk and about 10 c.c. of water. From this time on, the feedings are not increased unless the weight becomes stationary or the infant seems hungry and can take more. They are now on a three-hour schedule, receiving eight feedings during the twenty-four hours. To meet the fluid requirement of the body, water was given between feedings three to four times daily. No attempt was made, in the first few weeks of life, to meet the caloric requirements which have been very variable in our experience. We have found some infants gaining nicely on only 35 calories per pound body weight while others demanded as many as 60 to 70 calories. The total maximum daily increase in the quantity of feedings when that was indicated was never more than one ounce, that is, one-eighth ounce at each feeding. The feedings were usually given by a medicine dropper with a rubber tube attached. Most of the infants readily took their nourishment this way. Others who had difficulty in swallowing and tired quickly were fed by gavage. Often the two methods were combined. At all times our nurses were instructed not to force feedings. If the baby seemed to take his feeding reluctantly a ten to fifteen minute rest period was allowed and the feeding then resumed. In this way we were able to give all of the breast milk and also avoid regurgitation or vomiting. When vomiting did occur, it was a signal to reduce the quantity.

After the third week of life, an attempt was made to meet, more nearly, the caloric requirement of the infant. When the infant reached about five pounds in weight he was gradually placed on a home-going formula where the mother's milk supply could not readily be maintained. In choosing a substitute for breast milk, we preferred evaporated milk, since it produced gastro-intestinal disturbance less frequently and was readily taken. Our plan was to substitute one ounce of evaporated milk for 2 ounces of breast milk at a time until the infant was entirely on an evaporated milk formula. Dextri maltose No. 2 was also added about the same time, starting with one-eighth ounce and increasing to one ounce. By the time the infant was six pounds in weight he was entirely on an evaporated milk formula with dextri maltose and received six to seven feedings a

day. The average gain in weight was three to five ounces weekly and the average stay in the hospital was about three months.

Cod liver oil and orange juice were added to the formula at about the third week of life in increasing doses. Where cod liver oil was not tolerated viosterol was given.\* Cod liver oil is to be preferred since viosterol has not uniformly given as good results in premature infants as shown by recent investigations.<sup>2</sup> Iron was not added to the diet. Several years ago, Dr. Blatt and his associates carried on studies on the effect of iron on the blood picture of premature infants and they could find no appreciable change.<sup>1</sup> On occasions we added lactic acid or skim lactic acid milk to the formula to correct tendencies towards loose stools. Occasionally we observed an increase in weight by merely adding lactic acid, probably due to better assimilation of the food.

Diarrhea was a danger signal. Instructions to the nurse in charge of the premature station were that following a loose stool the next feeding was to be omitted and only water or weak tea given. If the diarrhea persisted, starvation periods of eight to twelve hours were instituted and fluids were given subcutaneously, and where the occasion demanded, blood intramuscularly. We did not resort to transfusions. By using this simple regime of omitting feedings or short periods of starvation, most of the diarrheas were easily checked.

A point I would like to stress is that one should not be too anxious to have the infant gain weight during the first three weeks of life. An increase of even five ounces during this period was considered an excellent gain and we were not worried if this did not occur. In fact, in our group of cases, it was common to see the weight remain stationary or even a slight loss occur during this initial period of adjustment. To remember this will often prevent a lot of trouble. In his anxiety to have the infant gain weight, the physician may overlook the more important task of keeping him alive. Gastro-intestinal upsets are frequently fatal. Furthermore, repeated insults to the gastro-entéric tract may eventually lead to athrepsia.

This is not a fitting place to discuss the

\*Mead's viosterol in halibut liver oil is now being used.

causes of death in our group of cases. They were due to complications beyond our control.

In conclusion permit me to emphasize two points: (1) The superiority of breast milk over other milks in feeding the premature infant and (2) the importance of

slowly increasing the feedings when such an increase was indicated.

### References

1. Blatt, M. L.: Personal communication.
2. Davidson, L. T., and Merritt, K. K.: Viosterol in the prophylaxis of rickets in premature infants. *Am. J. Dis. Child*, 48:291, 1934.

## THE QUESTIONABLE RELATIONSHIP OF DIET TO SKIN DISEASES

CYRIL K. VALADE, M.D.†  
DETROIT, MICHIGAN

The question of food is a matter of great concern to everybody. The most finicky idiosyncrasies of people are expressed in their choice of diet, and diet is one of the first factors to be blamed for bodily disturbances. There is some question as to whether in popular belief there may not rest some basis for these ideas. Man has learned to distinguish between harmless and injurious factors.

We shall consider the immediate manifestation of cutaneous eruptions following the ingestion of a food as having a direct relationship to that item. The indirect relationship involves the production of cutaneous pathology through intermediate factors such as the chemical decomposition of food; enteric disturbances; perverted metabolism; the skin condition being a consequence of these factors.

Diet has been unjustly accused of many crimes of which it is innocent. The incomplete investigation of the relationship of diet to the dermatoses has resulted in many popular misconceptions. The investigations that have been more complete tend to eliminate diet as the basic factor in many cases. The tendency of believing the things one wants to believe is too easily followed. In the case of a student, for example, he had the delusion that his occasional herpes labialis was due to a pork idiosyncrasy inasmuch as the eruption was noticed 24-48 hours after he remembered having eaten pork. More careful observation of this, however, has abolished the idea of this idiosyncrasy because it has been noticed frequently that pork could be eaten with impunity, and that the herpes appeared irrelevantly to the pork meals; and that the herpes occurred during a debilitated state following lack of sleep or excesses of smoking. Many of the dermatoses attributed

to dietary causes will be found, on more careful observation, to be rather of organic origin.

There are certain foods, however, effect of which is so direct that little doubt is left as to their etiologic importance. Some examples of these foods are the crustaceans as lobster, crab, and shrimp; certain fishes and meats as pork and veal; eggs; strawberries. We had a patient in the clinic recently who, when asked as to her diet, mentioned that she "broke out so" on her arms when she ate certain foods. When asked to give the type of foods, she stated that strawberries, cucumbers and apples were especially responsible. She stated, also, that the eruption was manifest as early as one hour after meals and seldom later than three hours. Restraining from these few items, she is never bothered. There is a case encountered in the literature in which strawberries produced a violent urticaria and erythema as soon as the berries had entered the mouth.

F. L. Bartheme reports a case in which the association of Henoch's purpura and an allergic phenomenon are demonstrated. Skin sensitization tests were done on the patient, which showed a marked reaction to tomatoes, beef, wheat, and egg yolk. Abstinence for three days from these items resulted in improvement. Later when the

†Dr. Valade is instructor in Dermatology and Syphilology, Wayne University College of Medicine. He is on the Dermatological Staff of Harper, Receiving, St. Joseph Hospitals and Protestant Orphans Home. Past Chairman Section on Dermatology and Syphilology, Michigan State Medical Society. He is Past President Detroit Dermatological Society.



patient ate ice cream containing egg she reacted with purpuric spots and abdominal pain.

B. Hajos reports a different type of case, interesting from this standpoint. A woman, thirty-four years old, owned an asparagus farm and had worked it for twelve years. In the past two years she suffered from an itching eczema on both hands and arms. Cutaneous tests revealed a positive reaction to asparagus. She was removed from the farm, treated, and recovered. Later, eating asparagus did not cause a recurrence of the eczema.

Reasonable doubt could easily be cast on both of these cases for want of more detailed information, yet on the face of the evidence presented, we can accept them as cases of food idiosyncrasy.

Certain poisons taken in with the food may give rise to conditions in which skin manifestations play an important rôle. In this connection may be mentioned ergotism and pellagra. Alcohol and "toper's nose" (acne rosacea) are commonly coupled in mind, although the latter may occur in individuals who have never used alcohol.

Foods causing an immediate response in the form of a dermatosis work their havoc on an allergic basis. W. Storm Van Leeuwen discusses this. He states that the allergic symptoms arise in two ways: (a) foods with uric acid compounds are least tolerated by allergies; and (b) from disordered purin metabolism. The instability of the vasomotor system is the factor in allergy, there being an increased permeability to the allergens. Dr. Van Leeuwen differentiates between allergy and anaphylaxis: allergy is an inherited phenomenon and is manifested on the first exposure to the allergens; whereas anaphylaxis is not inherited and is manifested on the second and subsequent exposures to the same protein. Allergic diseases are grouped by Van Leeuwen as those due to (a) animal protein, (b) foodstuffs, (c) bacteria, (d) drugs. In the direct relationship of diet to skin diseases we are dealing, in our opinion, with an allergic phenomenon due to foodstuffs. The strawberry rash, the urticarias, and the so-called idiosyncrasies are examples of this. The predisposing factor is a vasomotor instability which, as stated, can be inherited. We have an acquaintance who is susceptible to strawberries, getting

a rash very shortly after eating them. Her sister is susceptible in the same way to bananas, but not to strawberries. The acquaintance can eat bananas with impunity. This is an example of familial vasomotor instability, the exciting factor being different—strawberries in one case and bananas in the other. There can also be a seasonal and species variation in the effects of certain foods on the skin. J. C. White cites his own case in which he reacted to wild Swiss strawberries and not to the New England variety. A few years later when he returned to Europe he tested himself and found that the Swiss strawberries were harmless. There is, too, the effect of direct contact of certain items of diet with the buccal membrane. For example, the spices, peppers, and hot sauces (chemical and thermal) on the tongue and mucous membrane of the mouth may produce a severe erythema, burn, or ulceration. For a dietary item to have a direct etiologic relationship to the skin disease, that item must provoke the condition without a primary gastrointestinal disturbance and must produce the condition each time it is ingested.

On the other hand there are those foods which induce a dermatosis by indirect mechanisms. The exciting factor may rest in the food itself or in an altered physiological action as a result of the food. Stellwagon has seven groups in which the action of food as related to skin conditions falls:

1. *Idiosyncrasy*: Demonstrated by the effect of strawberries, crustaceans, meats, fish, oysters and acid fruits.

2. *Local action*: Acid fruits, tomatoes, peppery and hot sauces, nuts, etc., may provoke an eczematoid condition of the lips and mucous membrane.

3. *Nervous excitants and depressants*: An excess of coffee, tea, tobacco, or alcohol may produce a pruritus, acne rosacea, dermatitis, or dermatitis seborrhœica.

4. *The incompatible and irrational mixture of certain foods*: It is a popular belief that oatmeal and other cereals are deleterious. This is in all probability not a fault of the food *per se* but rather of the ingredients mixed. It may be the combination of the acid fruits eaten for breakfast followed by the cereal, served hot and flooded with milk or cream and sugar. Stellwagon believes that properly prepared oatmeal is harmless in rational quantities.

Another combination is buckwheat cakes and the traditional pork sausage, both fried in grease.

5. *Under and overfeeding:* In adults we must contend with weight reduction diets—a case of undereating and irrational eating. In infants and children, overeating is a big factor. There is a supercharging of the system with poorly digested food, associated with a faulty and incomplete elimination plus an eczematous diathesis. Stellwagon does not commit himself relative to the harmful effects of an excess red meat diet. One notable exception, according to some, is that fat stands in the first place as the etiology of eczema, particularly in infants.

6. *Faulty preservation of food:* Care must be taken not to mistake an idiosyncrasy for this factor. Upsets from faulty preservation are most frequent in the spring and summer seasons and after periods of extreme temperature. During these periods the preserving temperatures may not be carefully guarded. Pork, veal, and the crustaceans are more prone to putrefaction than beef, mutton, and poultry.

7. *Chemical preservation:* A dermatosis may result from the action of the drug *per se* rather than from the food. The drugs commonly used are boric acid, salicylic acid, potassium nitrate, formaldehyde, benzoic acid or sodium benzoate. The modern pure food laws, however, protect the consumer in this respect. There may also be an over-confidence in the preservative action of the chemical used with a resultant food deterioration.

These factors act by effecting an insult to the gut or to the body as a whole. For example, overeating and fast eating result in an indigestion and the overloading of the system with partially or poorly digested foods. Unripe fruits and vegetables and spoiled foods irritate the stomach and intestine with subsequent inflammation and reflex manifestation in the skin. The ptomaines and other products of decomposition as well as the preservative drugs affect the system and may become evident in a cutaneous eruption of some sort. Chronic psoriasis is often aggravated by a meat diet, the factor being the catabolism of the protein and albuminous portion of the food with the formation of autotoxins. Whether this reflex idea is an easy escape

from reality, we are not prepared to say. The thought was encountered frequently in the literature reviewed. Wm. T. Corlett states that in many diseases of the skin we can not associate local irritation, diathesis, or extraneous substances seeking exit from the blood, and so it is more rational to assume that they are perverted reflex manifestations. In place of the reflex centers transmitting a vasomotor relaxation to the mucosa of the stomach, a part is diverted and appears on the surface of the body as an erythema, urticaria, acute eczema, or prurigo. The predisposition and vulnerability of the skin must be considered, too. The skin is an organ having its variation in function as any other organ within the body, depending on constitutional demands and the general health. Certain diets tend to aggravate a dermatosis by fertilizing the soil with material already present in abundance. This is illustrated by the dermatoses of infancy, due to the overloading of a sensitive digestive tract by injudicious and excessive feeding. It is also a common occurrence to hear of abstinence from starch and sugars in a case of acne on the basis that the carbohydrates form a fertile media for the staphylococcus. Fox states that he has never known either of these two items taken in excess or between meals to aggravate the condition. Many dermatoses appear only after a condition of debilitated health when previously the patient was exposed with impunity to the exciting factors. In some of these cases a bland diet is preferable and in others a full, nutritious diet, depending on the case. Corlett claims that those having irritable skins in youth should avoid the continued use of rhubarb, small seed fruits, apples, shell fish, sugar, acids, malt liquors, and spirits; and in old age, lean meats, eggs, beans, shell fish, pastries, malt liquors, and spirits. Much depends on the preparation of the food, and an absolute prohibition of certain items is irrational without considering the cooking. Highly seasoned meats, fried meats, griddle cakes, hot bread and biscuits, unripe fruits and vegetables or even overripe fruits all contribute to the stigmata which the foods so prepared are subject to.

## II

Following is a brief consideration of cer-



tain foods as related to certain of the skin conditions:

*Butter:* The use of butter is associated with rich foods and fried foods, giving rise to digestive disorders. Eczema and acne are often attributed to an excess of butter. J. C. White states that butter *per se* is harmless to the skin. Butter is easily digested, but if it stays in the stomach too long, butyric acid is split off from the glyceryl butyrate causing indigestion, irritation, and urticaria.

*Milk:* There are some reasons for believing that milk has a deleterious effect on the skin. Certain of the infantile eczemas are improved or cured by withholding milk and substituting buttermilk. Culver says that milk is readily digested and assimilated, that the tissues finding nutrition so readily available lack a robust quality of rendering themselves capable of withstanding infection. Here, again, the fertilization of a susceptible soil must be considered. Cow's milk is a very complete food, but compared to human milk it is poor in carbohydrates and rich in fats. The milk fat may cause a seborrheic dermatitis in infants (known as milk crust) so the buttermilk therapy in infantile skin conditions provides a food which is fat poor. The skin uses considerable fat. Most fats, with the exception of butter, are not susceptible to bacterial decomposition. The source of fat for the skin is chiefly the ingested fats, though the sugars and other carbohydrates in their metabolism contribute some.

*Cereals:* These have long been regarded with suspicion. Careful questioning as to idiosyncrasies will usually exempt oatmeal and buckwheat especially from blame. The combinations of food served and their preparation are more often at fault.

*Fish:* There are many cases of real fish idiosyncrasy manifested by gastric irritation of a fugitive erythema or urticaria. Both the laity and profession are prone to blame fish without considering other factors. White doubts that fish is the etiology of dermatological lesions as often as it is thought to be. Much of the indigestibility of fish due to the frying. Fats may be decomposed by the heat into acrolein and other products irritating to the gastrointestinal tract. There are many communities having fish as the major item of diet which do not have an exceptional incidence

of skin diseases. Clams, lobsters, and other crustaceans may produce a cutaneous expression, usually through an indirect mechanism, there being a primary enteric disturbance. The toxins in certain mussels act after being ingested on an unstable cutaneous vasomotor system producing skin upsets.

*Alcohol:* Alcohol can be considered a food when taken in moderation. Continued use, however, may cause an enlargement of the facial capillaries, especially in the nose. Other changes which may occur are impetiginous, erythematous, or furuncular eruptions. These are generally confined to the lower limbs, but may be general in distribution. Lager beer is thought to provoke acne in women especially. The alcohol here is probably not the factor because of the low alcoholic content of beer. Alcohol will aggravate existent dermatoses, impairing the tone of the vasomotor system and producing a chronic passive congestion of the skin. It is usually interdicted in skin conditions. During Volstead days we saw many cases of pseudo-pellagra, due to improper handling of the mash in the preparation of the raw liquor and over-drinking.

*Fruits:* There are seasonal variations in the effects of fruits caused (1) by the varying amount of acids, and (2) by the degree of ripeness, namely, the conversion of the starches to sugars thus increasing the digestibility. The strawberry rash is typical of a food idiosyncrasy. Other fruits like pears, grapes, bananas, or apricots have their individual reactions, depending on the type of idiosyncrasy. Apples occasionally produce an acne like eruption around the mouth, and in children this may assume the character of a vesicular or impetiginous outbreak. The highly acid fruits are rhubarb, currants, gooseberries, raspberries, huckleberries, mulberries, plums. The acid contained is benzoic acid as a rule which, during metabolism, becomes hippuric acid. The citrus fruits, as lemons, oranges and limes, are better tolerated because the citric acid becomes an alkaline ash in the form of carbonates.

*Nuts:* Nuts are well known for their indigestibility. The English walnut produces a buccal eruption very often; and herpetiform inflammation around the lips is frequently seen. The type of protein and the high fat content are factors to be consid-

ered in the cutaneous upsets from nuts. The indigestibility is due to the large amount of cellulose. This dense cellulose framework may be broken down by grinding, thus making the nuts more bland and their presence more easily tolerated by the stomach.

*Sugar and Starch:* These are thought to be contraindicated in conditions of acne and furunculosis. Fox doubts whether they become a factor in these or any other skin conditions. There is little or no vitamin content in the carbohydrates, so a high carbohydrate diet would be deleterious from that standpoint.

*Meats:* Here the protein must be considered, and the allergic response to certain sensitizations. Meats are subject to considerable preservation and therefore are liable to spoil. The various ways of preparing and serving meat are often more at fault than meat itself in the production of skin conditions. We have cited a student's experience with a supposed idiosyncrasy to pork. Pork fat and especially bacon are some of the most readily digested of the meat fats, making them valuable for convalescent food. The quantity and quality of the digested fat does not have a direct noxious effect, but lowers the resistance and increases the susceptibility to bacterial attack, thus rendering the patient liable to acne, seborrheic eczema, furunculosis, and erysipelas. Fox states that the prohibition of red meats and starches has approached a faddish degree.

*Fowl:* As a rule, fowl are considered a very wholesome item of diet. White reports a case which developed a severe urticaria after the eating of the least bit of roast turkey.

### III

Some of the skin conditions as related to certain items of diet shall be briefly considered.

The general physical condition should always be ascertained before considering diet as the etiologic factor. The toxic by-products of a perverted metabolism are more often than not the hidden cause of skin diseases. We know of a patient with chronic cholecystitis and possible cholelithiasis who develops an urticaria whenever the condition is exacerbated. He has vainly tried to find a dietary cause for this urticaria. He also reacts, independently of his

gall bladder flareups, to raw and cooked apricots.

*Eczema* occurs in anemias, organic diseases of the liver, kidneys, and lungs. The food in these conditions should be simple and well cooked and there should be regular elimination.

In *infantile eczema* the amount and regularity of feedings are important. In breast fed babies the addition of cereals, fruit juices, and vegetables sometimes helps. In bottle fed youngsters, heating the milk, the use of protein milk or certain of the milk preparations, are of value. A mixed diet is more beneficial than a strictly milk diet.

*Lupus erythematosus* is of toxic origin and occurs in people with poor circulation and nutrition. This condition requires a generous and fatty diet to build up the whole system.

*Herpes zoster* results from an inflammation of the nerve ganglia and is uninfluenced by diet. Constitutional treatment, with rest and a wholesome diet, is indicated to improve the general tone of the whole body.

*Pemphigus*, which is a collection of bulbous eruptions of uncertain etiology, requires a search for a toxic gastro-intestinal tract. An acute febrile case is treated like other acute fevers with a bland and fluid diet.

*Psoriasis* may or may not be on a toxic basis, but if associated with trophic joint changes, toxemia is suggested. Alcohol, pastry, sweets, eggs, and fish are restricted. Chronic psoriasis is aggravated by a protein diet. There is a definite relationship between the amount of nitrogen in the food and the cause of the disease. The patient improves on a low protein diet and is worse on a high protein diet. Some patients suffer what Schamberg calls "nitrogen hunger" and those with a severe psoriasis present a state of remarkable protein undernutrition. This is because retained protein goes into making psoriasis scales which are almost pure protein. The success of the low protein diet in these cases is due to the fact that we can reach the point in the diet at which the protein goes only to the vital organs at the expense of the scales, thus inhibiting their production. One author suggests that milk may be taken, but not with meals. This statement, as made, is ambiguous. Coffee and tea are interdicted in this condition. A strict vege-



tarian or lacto-vegetarian diet is most effective in the treatment of psoriasis. This is known as the Salisbury treatment.

*Eczema* is of great importance and constitutes about one-third of the entire number of skin diseases and its dietetic management is at times exceedingly satisfactory.

There is considerable variance of opinion relative to *acne vulgaris*. It is a reaction of the period of evolution at puberty. It is associated with an excessive output of sebum which plug the hair follicles. Acne patients are often debilitated, frequently dyspeptic and constipated. They demand a simple, bland, and laxative diet. Some exclude fatty foods. Fox states that he has never known sugar or starches to aggravate an acne. It is a common impression that carbohydrates are interdicted in this condition.

*Lupus vulgaris* thrives on a deficient cutaneous resistance, plus the toxic effect of the tubercle bacillus. It requires a high caloric diet.

In *syphilis*, green vegetables and coarse foods must be used with caution while mercury is given because of the possible gastric distress.

*Pruritus* is due to a disturbed function of the sensory nerves. The noxious products of certain metals, or such conditions as diabetes, liver pathology associated with jaundice, and uremia irritate the sensory nerves and produce a pruritus. The diet in these latter conditions, especially, is extremely important. The spices, crustaceans, fish, meats, cheese, tobacco, alcohol, tea, and coffee are contraindicated.

The *prurigos* are closely related to urticaria being on the basis of a susceptible vasomotor system and sensory nerve irritation. They are characterized by itching papules and are common in childhood. After ruling out external irritants, the diet and gastro-intestinal tract must be considered.

Pellagra is a deficiency disease manifested, among other things, by cutaneous pathology. Protein and vitamin insufficiency have been attributed the cause. Sutton thinks that it is not so much a deficiency disease as it is a definite intoxication arising from the gastrointestinal tract. Goldberger thinks that the diet controls the cause and development of the condition, the relationship depending on a specific quality of the amino acid makeup of the

protein supply. Other evidence is against this idea. Akyroyd says that a vitamin B<sub>2</sub> deficiency is a more probable cause, though this is still uncertain. Pellagra, however, can not be regarded as synonymous with a vitamin B<sub>2</sub> deficiency. Vitamin B is found in fresh and cooked fruits, vegetables, and dairy products, it being heat resistant.

*Urticaria* is a manifestation of a vasomotor instability. The bowels should be purged, fluids forced, and the offending item of diet as shell-fish, strawberries, et cetera, restricted.

*Furunculosis* demands no special diet *per se*, but a co-existent diabetes or anemia should receive attention from a dietary standpoint. The skin is not a storage place for glucose or glycogen. The sugar content of the skin rises with a hyperglycemia, but when the blood sugar level drops, that in the skin readily diffuses back. Greenwood states that we can not correlate local infection with a hyperglycemia. Bodily hygiene is the important factor in diabetes and with furunculosis.

In *dermatitis herpetiformis* there is urea retention just before the rash which is a local manifestation of a general metabolic disturbance and as the retention of purin bodies is casual then diet as for gout should be given with effective elimination at all exits. Some claim that it is a nervous condition. During the acute stage put on an exclusive milk diet. Tea, coffee and alcohol should be forbidden. When the acute stage has subsided, vegetables, farinaceous foods and eggs may be added to the diet returning gradually to the normal diet, excluding indigestible and pure, rich foods.

*Hyperidrosis*: Since sweating is caused by vasomotor disturbance, general hygiene plays a part in the cure, and although there is no diet factor as a cause, the patient should avoid dietary risks and keep on a simple diet. When accompanied with obesity, or some nervous condition, these should receive their appropriate and dietetic treatment.

#### IV

##### Summary

1. Diet may be a vital factor in skin diseases.
2. Organic and parasitic diseases should be ruled out first or treated first, if present.
3. The noxious products of a perverted

metabolism or faulty digestion may produce skin diseases

(a) directly by reflex action through the intestines and allergic phenomena;

(b) indirectly by

(1) sensory and vasomotor nerve irritation;

(2) cutaneous irritation by the sweat.

4. Skin diseases may arise from irrational eating:

(a) irregularity of eating;

(b) too large or too small quantities;

(c) deficient diets.

1604 Eaton Tower

## SOME OBSERVATIONS ON URETHRITIS

L. W. HULL, M.D.†  
DETROIT, MICHIGAN

This paper is an endeavor to check up on the results, both medical and social, of the medical care of urethritis and its most common cause, gonorrhea. It consists of a study of one hundred cases, taken from my own office files. No special cases were culled out. Beginning with the letter "A" all were taken in alphabetical order until one hundred had been collected.

The first general impression is a rather disappointing one, in that the problem of sex hygiene is so very generally misunderstood by patients, who are either extremely apprehensive of ever recovering from a disease about which they have heard so many terrible tales or are in the exactly opposite frame of mind. These latter belittle the disease and also the physician, for the continued presence of an infection, for which they are unwilling or perhaps unable to make the necessary sacrifices in their personal living. The physician is inclined to think that there has been so much effort made toward the education of the laity during the past fifteen years, during and since the war, that everyone should realize something of the true significance of this problem. We, as physicians, forget, however, that this country, with the best educational program on matters of sex hygiene ever devised, has fallen down woefully in recent years with characteristic American emotional instability. While several European countries, England, Belgium, Sweden and to a lesser degree, France, are reporting figures showing a very marked decrease in the incidence of syphilis and gonorrhea, here we make assertions, but have nothing with which to back them up and know that very little progress has been made in the United States toward the elimination of venereal disease. It is a medical problem that is up to us to solve, not only with satisfaction to

ourselves, but also to the great body of our more intelligent citizens, who are taking a more and more active interest in community health.

I have made up a series of tables illustrating the various points to be brought out.

Table I shows that of one hundred male patients with an urethral discharge when first presenting themselves for treatment, sixty-six had gonorrhea as a cause of their urethritis, thirty-two other pus producing organisms and one an intra-urethral chancre. Five of these first seen for a non-specific urethritis, later on returned with gonorrhea, one of them twice. Sixty of the one hundred had a history of a previous gonorrheal urethritis. This, as you must admit, does not speak well for the results of educational measures for the eradication of venereal disease or perhaps for the intelligence of our citizens. These men are a fair cross section of the male population of our country, rich and fairly poor with the intermediate grades of earning capacity, laborer and white collared worker being included. The total number taken care of for gonorrhea, seventy-one, showed thirty-nine with a prior history of gonorrhea, thirty-two without such a history; 56 per cent. As shown, five patients who were seen first for a non-specific discharge later developed gonorrhea, one of them going through two

†Dr. Hull graduated from the literary department of the University of Michigan in 1909; from the medical department 1911. He was interne at the Calumet and Hecla Hospitals 1911-1912. He is associate attending urologist at the Grace and Receiving Hospitals.



TABLE I. CLASSIFICATION OF 100 CASES OF URETHRITIS

Gonorrheal urethritis.....	66
Non-specific urethritis.....	32
Both non-specific and gonorrheal urethritis.....	5
Luetic urethritis.....	1
No previous venereal disease.....	40
Previous venereal disease.....	60

TABLE II. GONORRHEAL URETHRITIS, SEVENTY-ONE CASES

Previous venereal disease.....	39
No previous venereal disease.....	27
Non-specific urethritis and gonorrhea.....	5
Non-specific urethritis and two gonorrheal infections .....	1

TABLE III. NON-SPECIFIC URETHRITIS, THIRTY-THREE CASES

With history of gonorrhea.....	22
Without history of gonorrhea.....	11
Furunculosis .....	1
Chemical urethritis (drugs).....	3
Diabetes .....	1
Lues .....	1
Strain, liquor, etc.....	2

attacks. The cases of urethritis showing no evidence of gonorrhea at the time first seen, thirty-three cases, gave a history of gonorrhea in twenty-two cases (66 per cent) showing the major roll played by antecedent gonorrhea in this type of infection, even though not the direct cause at the time. In the remaining eleven, as a cause of the discharge, we have drugs used as prophylactic in three, furunculosis, diabetes, syphilis, liquor accompanied perhaps with sexual strain and three without any admitted cause. It just happened. The exact part in the tragedy played by masturbation is hard to determine though I believe important and more common than we suspect. Two of these cases diagnosed as a chemical urethritis were taken care of at various times over a period of years and would return after a session with themselves of using the favorite remedy of their friend, the drug clerk. Hand injections were begun as a prophylactic and continued after establishing a mild chemical urethritis. One is inclined to question the sanity of patients of this type and yet these two happened to be getting along quite well enough in their work and had good jobs. The urethritis accompanying diabetes and lues cleared on the treatment of the cause, as did that occurring during a series of boils.

The social status of these two groups is shown in Table IV. Of the seventy-one

gonorrhea patients, eighteen were married; fifty-two single; one undetermined. There was one divorcee and one widower. Thirty-four per cent married, would seem to indicate that there is a certain amount of protection afforded by marriage to the ordinary man. Ten of those, with non-specific infections, were married, twenty-three single, including one widower.

TABLE IV. SOCIAL STATUS, SEVENTY-ONE CASES OF GONORRHEA

Married .....	18
Single .....	52
Undetermined .....	1
Divorced .....	1
Widower .....	1

SOCIAL STATUS, THIRTY-THREE CASES OF NON-SPECIFIC URETHRITIS

Married .....	10
Single .....	23
Widower .....	1

TABLE V. TIME IN DAYS BETWEEN EXPOSURE AND APPEARANCE OF DISCHARGE

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 21	
0 4 3 4 5 5 2 2 1 2 2 1	

NUMBER OF ATTACKS OF GONORRHEA

One .....	38
Two .....	12
Three .....	4
Four .....	
Multiple .....	6

The interval, in days, between exposure and the appearance of the discharge, is shown in Table V. These intervals as recorded were accurate according to the patient. A good many seemed unable to be positive because of multiple exposures. The rather prolonged interval, in some few cases two to three weeks, may seem to differ from the ordinary conception, but is correct and is of social interest in that the patient is infectious during that interval. Of the sixty admitting of venereal history, thirty-eight had had one prior attack; twelve two; four three and six five or more. The question of recurrence of the same or old infection, comes up here. The time interval between attacks and admitted exposure, the clinical course of previous attacks as described, seemed to bear out the statements of these men that they had been freshly infected each time. That it can happen is shown by one of my patients who has acquired gonorrhea four times in six years, recovering without much difficulty each time. Along

with one of these infections he also picked up a chancre. This was his second attack of syphilis. I believe him now to be free from any venereal infection.

TABLE VI. MULTIPLE VENEREAL INFECTION

<i>Syphilis</i> .....	4
(a) Reinfection after 11 years. Positive dark field .....	1
(b) Luetic urethritis, positive dark field.....	1
Treatment up to 18 days before, with mercury .....	
(c) Positive Wassermann and history, treatment refused.....	2
Chancroid .....	2
Erosive Balanitis.....	1

Multiple venereal infection occurred in several (Table VI). Two penile chancres were seen in connection with urethritis, one patient having gonorrhea and the other an intra-urethral lesion, the urethritis clearing under anti-luetic treatment. This latter case was interesting in that the patient was under treatment for syphilis at the time and said that eighteen days before the appearance of the discharge he had finished a course of mercury injections. The dark field examination was positive for the treponema. The lesion was not in the same location as that of his previous infection. Two other patients had positive Wassermann reactions, knew of their trouble but refused treatment. There are two cases of chancroid and one of erosive balanitis.

The most frequent major complication of gonorrhea is epididymitis. Thirteen of the sixty (21 per cent) having had attacks of gonorrhea before I saw them had had epididymitis. Eleven (15 per cent) had epididymitis when first seen, having been treated by themselves or by another physician, and eight (12 per cent) developed epididymitis while under my care. There were four epididymotomies done in the second group.

There were eight cases of acute prostatitis in the series (11 per cent). Three of these patients developed an acute epididymitis. Among the five patients, known to have had a non-specific prostatitis and seminal vesiculitis before contracting gonorrhea, two developed epididymitis (40 per cent), and one an acute prostatitis (20 per cent), an unusually high percentage. Two patients developed a peri-urethral abscess, necessitating operation, one being referred

for that condition. One patient developed a gonorrheal proctitis, infecting himself while taking an enema. Refusal by a patient to permit of a dorsal slit being done resulted in a severe balano-posthitis. He became psychotic and was institutionalized for awhile. There were three cases of gonorrheal rheumatism, two in repeaters who had had rheumatism in a previous attack. The third case was particularly interesting as he infected his wife, who also developed an arthritis. It does not seem as though this were merely a coincidence but that it would show a selective affinity for certain tissues by this strain of the gonococcus. One Cowper's gland abscess was operated on.

TABLE VII. COMPLICATIONS OF GONORRHEA

	Bilateral	Right	Left	Total
<i>Epididymitis:</i>				
(1) During previous attacks of gonorrhea .....	5	3	5	13
(2) Care of self and other physician .....	3	5	3	11
(3) Care at office.....	2	4	2	8
Operations on (2).....				4
<i>Acute Prostatitis</i> .....				8
Acute epididymitis as a complication.....				3
Non-specific urethritis and gonorrhea.....				5
Acute epididymitis.....				2
Acute prostatitis.....				1
Periurethral abscess .....				2
Proctitis .....				1
Balano-Posthitis .....				1
Psychosis .....				1
Rheumatism .....				3
(a) First attack—infected wife and wife had same .....				1
(b) Attack of rheumatism during other attacks of gonorrhea .....				2
Abscess of Cowper's gland with perineal sinus .....				1
Stricture .....				10
Large calibered No. 20 F, bulb.....				1
No. 14-18 F, bulb.....				6
Filiform, bulb and penile.....				3

Ten per cent of these 100 patients had urethral strictures. Nine were in the group having a non-specific urethritis and one had an acute gonorrhea. Perhaps there were strictures in the group of gonorrhoeic patients who left while there was a discharge containing gonococci and whose urethras, therefore, could not be examined. With all of these cases there was an easily demonstrable infection of the prostate and seminal vesicles, which, I believe, always accompanies stricture. The calibers and other data of these strictures are shown in Table VII.



TABLE VIII. RESULTS OF TREATMENT OF GONORRHEA

Cured .....	40 (56%)
Probably cured (discontinued treatments of own volition).....	5
To other physician, dissatisfaction.....	4
To other physician, his case.....	1
Few or no treatments (dissatisfaction, no money—Board of Health).....	11
Consultations .....	3
Left city .....	7

## RESULTS OF TREATMENT OF NON-SPECIFIC URETHRITIS

Symptom-free (at least temporarily)....	22 (66%)
Treated for 60 days or more, with some improvement .....	4
(1) Recurrence on drinking, left town.	1
(2) Intercurrent infection, smallpox, no result .....	1
(3) Stripping .....	1
(4) Stricture .....	1

## DISCONTINUED TREATMENT IMMEDIATELY OR WITHIN A WEEK (FIVE)

(1) Died of smallpox.....	1
(2) Strictures .....	2
(3) Referred out of town.....	1
(4) Sex neurasthenic.....	(1)

Consideration of the results of treatment is not particularly flattering to the physician, at least, not to this one. Forty of the gonorrhoeic patients, I am sure, were cured of their infection (56 per cent) (Table VIII). Five discontinued treatments of their own volition and undoubtedly got well. In the forty who remained under care until they were discharged, prostate, vesicles and urethra were normal, as shown by repeated examinations. Four became dissatisfied and went to some other physician. One patient was sent back to his physician as he had been only temporarily referred. Eleven left immediately or within a week, due to lack of money, hospitalization at the expense of the community, to the Board of Health Clinic or perhaps to their own tender care and that of the corner drug store. Three were consultations and seven left the city and were referred elsewhere. It would seem that being unable to see more than 56 per cent of a group of patients through to the end of their infection, is not a good record. Probably no other disease gives such a large per cent who fall by the wayside as far as the physician and his treatment are concerned.

The results in the cases of non-specific urethritis are twenty-two with cessation of the discharge and improvement (66 per cent). Four were improved but still retained a mild urethral discharge, a morning

drop. One of these four was free of trouble for a short time only to have a recurrence after getting drunk. Another went through an attack of smallpox, reporting that while he had the smallpox, he was free of discharge, but it returned on recovery from that disease. Another, I am sure, kept up his discharge, by persistent stripping of the urethra, thus injuring the canal, while the fourth had a stricture. Five discontinued treatment within a week, two having strictures. One was referred out of town with instructions to continue dilatation of his stricture. A fourth died of smallpox. The fifth patient has been seen since with a return of the discharge, due to a persistent desire to do something for himself, that is, use an injection, bougie or other medicinal agent, which he thinks he needs at times. How many of these patients keep up their troubles with masturbation or other genital tinkering it is hard to say.

I have put down six of this group of 100 as being sexual neurasthenics, a classification used for want of a better term and easily understood. Three of these had had gonorrhea and three had not. There is no human specimen who is more pitiable to see than this type in full bloom. With their varied complaints, fault finding with advice and treatment and prescribing treatment for themselves, they are among the most difficult of our patients to handle. Several were referred to the neurologist with indifferent results. Happy married life, at least temporarily, worked as a prescription for two of them, although you feel like apologizing to womankind for suggesting it. However, the cynical attitude, which we find is so easy to assume as physicians in the care of these patients, occasionally receives a severe jolt and we may be rewarded when we least expect it in the response of human nature to encouragement from one of us.

The time taken in the care of urethritis is perhaps the most irksome factor we have to deal with. Little or no pain is caused by our therapeutic measures if we are doing a good job. The disease itself, barring some of the complications, is not as disabling or painful as many others. These facts alone make the ordinary man impatient of treatment restrictions as there seems to be so little reason for a disease continuing with so few symptoms and so little discomfort.

TABLE IX. TIME OF TREATMENT OF  
URETHRITIS

	Number of Patients	Time of Treatment
Gonorrhea, acute, no previous infection or treatment.....	9	71 days
Gonorrhea, acute, acute prostatitis as a complication.....	3	106 days
Gonorrhea, acute, chronic prostatitis as a complication.....	4	333 days
Gonorrhea, acute, with treatment by self and other physician, at offices.....	13	113 days
Gonorrhea, acute, with treatment by self and other physician, in all.....	..	159 days
Gonorrhea (previous infections), no other tract pathology.....	8	58 days
Gonorrhea (previous infections), chronic prostatitis of gonorrheal origin.....	14	225 days
Cleared completely of gonorrhea and prostatitis.....	4	
Cleared completely of gonorrhea with residuary prostatitis.....	10	
Gonorrhea, chronic, with residuary prostatitis and gonorrhea.....	4	112 days
Non-specific, no history of gonorrhea.....	5	25 days
Non-specific, history of gonorrhea.....	14	61 days

Then, too, the social aspect, the taboo placed on venereal infection, the necessity of keeping a secret of his affliction and the dread of what may happen in later life, all contribute to upset the mental balance of many patients. Any disease affecting the male genitalia seems to carry with it a much more profoundly depressing effect than elsewhere, from its very location.

In Table IX is charted the time taken in the treatment of these cases of urethritis. The average length of time for nine cases of acute gonorrhea with no prior infection was seventy-one days until discharged as cured. These patients had had no previous medical care, except what they might have given themselves on the advice of their friends. The man with his first attack of gonorrhea does not immediately report to a physician. Three patients with an acute attack, complicated by an acute prostatitis, cleared in 106 days. Four acute cases, with a chronic prostatitis, took an average of 333 days. This is the type of case where a search for other foci of infection is necessary. One of these men cleared very quickly after tonsillectomy. Thirteen patients, who were treated elsewhere, and by themselves, took 159 days, on an average, to get well; 113 of those days under my care. With no other pathology in the genito-urinary tract, but a history of other gonorrheal infection, eight patients were cured in an average of fifty-eight days. These men appeared for treatment immediately on recognizing their trouble and were willing to go the limit as far as their personal hygiene and treatment was concerned. Experience is a great teacher. Of fourteen, with a new infection, complicated by a chronic prostatitis of gonococcal origin, four were

cured completely in 225 days and ten in the same length of time of the gonorrhea, but still had a residuary prostatitis and seminal vesiculitis. These ten, however, I believe were free of the gonococcus. Four patients were treated for an average of 112 days without freeing them from the gonococcus before they discontinued treatment with me. Without taking into consideration the strain of the gonococcus acquired and the individual resistance of the patient, about both of which we are rather uncertain, the severity of the infection and length of time required for a cure are directly dependent on infection of the urethral glandular adnexa, the glands of Littre, Cowper's gland, prostate and seminal vesicles.

In the group with non-specific urethritis, five patients, with no history of gonorrhea, cleared in twenty-five days; two completely; three with no discharge, but a remaining prostatitis and vesiculitis. Fourteen, with a history of previous gonorrhea, were clear in an average of sixty-one days, one completely and the other thirteen still having a residuary prostatitis and vesiculitis. It is in this latter group that we find the cases of stricture, which never do get well completely, but require periodic dilatation. Also those having indefinite pains, located variously in the perineum, rectum, penis, testes, supra-pubic area and back, which flare up at times, due to indiscretions in diet, drink and sex activity. In this group are the cases with fibrosed prostates and seminal vesicles and scarred posterior urethras, which later on may develop obstruction at the neck of the bladder. Some of these men take their troubles philosophically and admit they have it coming to them, others do not and are very critical of the medical pro-



fession in general. A normal sexual life is our best prescription and is also often the most difficult of having filled.

I have tried to show some of the difficulties inherent in the medical care of urethritis. From a consideration of this small series of cases it must be evident that from the standpoint of the patient there is very little protection being afforded the individual by society as a whole. Human nature must be accepted as it is for the present and our efforts directed more directly toward the eradication of the foci of infection, the carrier, both male and female. The effort to raise the morals of the community should be continued with less emphasis on the fear of being infected as fear is a very poor deterrent at best. The community is looking to the physician for leadership in the prevention of all diseases and there are several suggestions that can be made toward the prevention of venereal infection.

Our medical schools should devote more time in teaching the recognition and treatment of venereal disease. The thrill, occasioned by the diagnosis of an obscure heart lesion of luetic origin, is somewhat dampened when your patient inquires how it could be when he had some time ago taken so many "shots," and on his having had a negative Wassermann test being pronounced cured by his physician. If he happens to be of the more intelligent type, perhaps he will ask what doctors of medicine are doing to prevent the spread of syphilis. The fibrous median bar at the neck of the bladder can be taken care of but at a great cost in time, suffering and money to the man, who has had gonorrhea.

No hospital that I know of makes any particular effort to use the clinical material available to teach its internes the care of acute gonorrhea, and yet the probabilities are that those internes will have much more use for an accurate knowledge of how to deal with that disease than of how to do a hysterectomy or thyroidectomy. No hospital has a prophylactic station maintained twenty-four hours a day. Five-sixths of the

gonorrhea in the American army, during the World War, was brought into it from civilian life. There is no doubt that the A. E. F. in France was freer from venereal disease, and was kept so, than any body of men in the history of the world and that in spite of conditions potentially as productive of infection as could be imagined. Prophylaxis was instantly available and as a consequence made use of. This need is being answered in a poor way by the clerk in the corner drug store.

Research work is much more expensive in this country than in Europe, due to our much higher standards of living. However, money is also more plentiful here and we see enormous sums given and spent principally in Europe on the diagnosis and treatment of syphilis. The results have more than justified the expenditure. No similar effort has been put forth toward the cure of gonorrhea. Whether it will be possible to obtain money to combat the lowly and much despised gonococcus, remains to be seen. It does not seem to get the same emotional response from the prospective donor that research on some other disease does and connecting up his name with this disease meets with no encouragement. However, in England, the campaign against venereal disease is showing real results in less gonorrhea as well as less syphilis. A few thousand dollars spent for syringes and paid attendants by our community would more than be paid back into the community chest by fewer wrecked families and individuals, of necessity now taken care of as a direct result of gonococcal infection. There is no disease where prophylaxis is more necessary and treatment is more discouraging.

Whether, as some predict, the present moral code would break down if the fear of venereal disease were removed as a deterrent to promiscuous sex relations, only the future can tell when we have removed the scourge of these diseases from our civilization.

Detroit Polyclinic.

## INTERSTITIAL HERNIA\*

SYDNEY K. BEIGLER, M.D., F.A.C.S.†  
DETROIT, MICHIGAN

When one sees patients who present themselves with inguinal hernias, he is usually accustomed to classify the hernias as either direct or indirect. It is very seldom that we make a preoperative diagnosis other than the above types, largely because we fail to recognize any other type of inguinal hernia. This failure of recognition is probably due to the fact that most of us are aware of the existence of inguinal hernias other than the usual type. It is for this reason that we are reporting this case and a brief résumé of the unusual types of inguinal hernias.

## Report of Case

A patient was admitted to the hospital, complaining of rupture. His past history was essentially unimportant. A history of tuberculosis was elicited in his family history; otherwise, it was negative. He dated the onset of his rupture in the right inguinal region to about twenty years previous, at which time he noted, in the right lower quadrant, a small protrusion which gradually increased in size. At first he had no accompanying symptoms, but after several years he began to have pain in the right inguinal region which gradually increased both in severity and frequency, particularly upon exertion. He wore a truss for a number of years, without any apparent relief. About twelve years before his admission to the hospital, he also noted a protrusion in the left inguinal region which steadily increased in size. The remainder of his history was entirely negative.

Examination showed a well developed man, apparently in good health. His pupils reacted well to light and distance. There was slight bilateral horizontal nystagmus; ears, nose and mouth were negative. The chest examination revealed decreased expansion, but there were no organic findings. The heart showed a chronic myocarditis. The blood pressure was systolic 216, diastolic 138. His blood vessels were all sclerotic in type. Abdominal findings were of a tumor-like mass protruding in the right lower quadrant. The external abdominal inguinal rings were markedly relaxed on both sides, particularly on the right side. The right testicle was undescended.

Laboratory findings were all negative.

Operation was performed for bilateral indirect inguinal hernia under local anesthesia. On the left side a typical indirect inguinal hernia was found. On the right side, however, a double sac was found to be protruding through all the muscular layers as far as the external oblique fascia. The sac was isolated and separated from its adjacent structures. Both hernias were repaired according to E. Willys Andrews' modification of Ferguson's method. The patient made an uneventful postoperative recovery and was discharged from the hospital in very good condition.

\*From the Department of Surgery, Harper Hospital, Detroit, Michigan.

†Dr. Beigler graduated from the University of Michigan Medical School in 1924. In 1924-1925 he served rotating internship at the University of Wisconsin General Hospital; in 1925-1928 he was instructor and resident surgeon at the University of Wisconsin General Hospital; in 1928-1930 he was exchange fellow in surgery, University of Berlin, Germany. He is assistant surgeon, Harper Hospital, Detroit; attending surgeon, North End Clinic; chief consulting surgeon, Jewish Orphan's Home.

## Discussion

Interstitial hernia may be defined as any hernia which, in the course of its development, spreads out in the planes of interstices of the abdominal wall. According to Goebell, this type of hernia was first described by Bartholin in 1661, and further described in 1797 by Petit. Kuster, in 1880, described a hernia between the aponeurosis of the external oblique and the superficial fascia, which is now known as Kuster's Hernia, or as Inguino Superficial Hernia. Kröhlein, who made a very interesting study and collection of all cases of the unusual inguinal hernias, described the properitoneal type and reported six cases of that type in 1876. Since then many cases of anomalous inguinal hernias have been reported and the various types fully described.

Essentially, there are three types of interstitial hernias described, the type depending entirely upon the location of the sac in the abdominal wall.

I. *Properitoneal Type*: This type indicates that the sac lies between the peritoneum and the transversalis fascia. The position of the sac most frequently is between the internal inguinal ring and the anterior superior iliac spine. The sac may, however, follow the direction of the inguinal canal into the scrotum, or it may go backwards to occupy the inner part of the iliac fossa.

II. *Inguino Interstitial*: In this type the sac may be located in the following planes: (1) Between the transversalis muscle and the transversalis fascia. This type is very rarely seen because the attachment between the transversalis fascia and muscle is much closer than between the transversalis fascia and the peritoneum. (2) Between the transversalis muscle and internal oblique muscle. (3) Between the internal



and external oblique muscles. This is the most common location for the interstitial type, due to a point of weakness on the anterior wall of the abdominal portion of the inguinal canal at which place the space between the two oblique muscles is largely filled with loose, connective tissue.

III. *Inguino Superficial*: In this type the sac is found between the aponeurosis of the external oblique and superficial fascia. Coley reports that 26 out of 123 cases operated for undescended testis showed this type of hernia present. The increasing frequency of operations for the cure of undescended testis has brought to notice an increasing number of these cases, due to the frequent association of the two conditions.

The sac, regardless of the type, may be single or multiple—hence the hernia may be unilocular or bilocular. The literature reveals considerable controversy over the method of formation of the second sac. One group favors the congenital theory, believing that two distinct sacs are present, joined by a common neck at the internal ring. Another group explains the formation of the second sac as due to mechanical factors which cause an obstruction to the onward course of the hernia and thereby causes an outpouching from the first sac. In most cases we find a bilocular sac; one sac located in the inguinal canal or scrotum, the other in any of the locations mentioned above, which constitutes the interstitial hernia.

As to the etiological factors in the production of interstitial hernia, a number of theories have been advocated but the theory of obstruction has been well accepted by such men as Goebell and Kronlein. Mechanical obstruction due to undescended testicle constitutes about 70 per cent of all reported cases of interstitial hernia. A very unusual case has been reported in a female in which a hydrocele in the canal of Nuck was the factor in producing an interstitial hernia. Obstruction other than undescended testis, such as a small external ring which may be either congenital or acquired, is an important predisposing factor in the production of the interstitial hernia. An ill-

fitting truss, which indirectly causes a mechanical obstruction at the external ring by the formation of adhesions, is advocated particularly by Halstead as an etiological agent.

The diagnosis of interstitial hernia is not difficult if one remembers this possibility in the differential diagnosis of all hernias. It is usually simplified when one can see and palpate a tumor mass in the right lower quadrant which has an unusual relationship to the inguinal canal, and especially when this tumor mass is associated with an undescended testicle on the same side.

From the standpoint of complications, we wish to emphasize that the possibility of strangulation is increased since most cases have a bilocular sac. Cumston states that 50 per cent of all cases strangulate and Kronlein reports 90 per cent mortality in all of his cases of strangulated interstitial hernias.

The treatment in all the unusual types is operation for radical cure of hernia. The first step is the complete isolation and ligation of both sacs, followed by repair of the abdominal weakness.

### Conclusions

1. Interstitial hernias are more common than the literature reports, but they are not recognized as such.
2. Interstitial hernias may be of three types.
3. The sac is usually bilocular.
4. Undescended testis usually accompanies the hernia.
5. Some form of obstruction is the most common etiological agent.
6. Early diagnosis is essential because of the increased possibility of strangulation.

### Bibliography

1. Argot: *Lyon Med. Jour.*, 128:350, 1919.
2. Bull-Coley: *International Textbook of Surgery*, 1900.
3. Creysell: *Lyon Med. Jour.*, 136:97-100, 1910.
4. Cumston: *Ann. Surg.*, 28:427-436, 1905.
5. Goebell: *Deutsch. Ztschr. f. Chir.*, 64:461, 1923; also 56:1, 1914.
6. Halstead: *Ann. Surg.*, 25:704-716, 1906.
7. Halstead: *Surg., Gynec., and Obstet.*, 2:324, 1906.
8. Kronlein, R. V.: *Arch. f. Klin. Chir.*, 19:408, 1876; 25:548, 1880; 26:521.
9. Kuster: *Arch. f. Klin. Chir.*, 34:202, 1916.
10. Moynihan: *British Med. Jour.*, (Feb. 24) 1900.
11. Schmidt and Ellen: *Arch. f. Klin. Chir.*, 96:1012.

## A CASE OF AGRANULOCYTOSIS WITH RECOVERY FOLLOWING THE ADMINISTRATION OF CONCENTRATED LIVER EXTRACT

O. D. HUDNUTT, M.D.†  
PLAINWELL, MICHIGAN

The patient, a woman, aged thirty-nine years, was first seen by me on the tenth day of her illness. She had complained of a sore throat and lassitude. Her previous medical and social history was negative, except that for the past fifteen years she had taken daily doses of a well advertised headache remedy containing twenty grains of acetanilid to the ounce. This drug is built up from the benzene ring and all compounds of this group have a deleterious effect on the white blood cells if taken over long periods of time.

At the first examination her temperature was 104 and ranged from 103 to 105 for the day. Pulse was 140; respiration, 40; urine, negative. Blood: hemoglobin, 80 per cent; red cells, 4,300,000; white cells, 2,000; lymphocytes 69 per cent; mononuclears, 21 per cent; polynuclears, 10 per cent. Blood pressure reading was 120/80. Examination of the lungs gave negative findings, heart sounds were weak, mentality was clouded. The patient complained of great exhaustion.

A liver extract was administered by mouth and an effort made to procure some preparation of nucleic acid. The day following her blood count was about as above and her general condition was weaker. The third day a concentrated liver extract (containing nucleic acid) was given intramuscularly twice daily. Three hours after the first injection

her white cells were 4,200, lymphocytes, 82 per cent, mononuclears 6 per cent, polynuclears 12 per cent. Five hours later, white cells were 17,000, lymphocytes 80 per cent, mononuclears 4 per cent, polynuclears 16 per cent.

At the time of the fourth injection her condition was desperate, temperature 105, respirations 48, pulse 140. Blood pressure readings were 95/75. After this she rapidly improved. White cells were 12,000, lymphocytes 30 per cent, mononuclears 18 per cent, polynuclears 50 per cent. Two days later her blood count was normal.

†Dr. O. D. Hudnutt is a graduate of Albion College, A.B., 1904; University of Michigan Medical School, M.D., 1910. He served his internship at Youngstown Hospital, 1910-1911. He is roentgenologist, U.S.A. Base Hospital, No. 31, A.E.F.

## PATHOLOGICAL PROCESSES OF THE FOSSA NAVICULARIS

NOAH E. ARONSTAM, M.D.†  
DETROIT, MICHIGAN

Affections of the fossa navicularis are not as rare as has been regarded heretofore. We encounter them not infrequently under the guise of symptoms simulating chronic urethritis. Commonly the patient complains of a burning sensation on micturition, gradually subsiding upon completion of the act. The first glass test reveals flocculi and filaments, while the second, third and fourth tubes are negative. Not always do we detect gonorrheal infection upon the examination of the centrifuged urine; Gram-positive diplococci, epithelial cells and cellular debris may often be recognized.

To depend solely upon the glass test procedure would be futile; recourse must be had to direct inspection of the parts involved. When a sound is inserted into the anterior urethra and palpation exerted upon it by the finger, one may elicit a ring of cartilaginous consistency or a band of semi-circular plastic exudate beneath the sound. I have termed this pathological state urethritis navicularis. This alone, however, is not sufficient; anterior urethroscopy is of greater value in detecting these lesions. By withdrawing the urethroscope and thus

gradually reaching the fossa navicularis, one is distinctly confronted by typical lesions invading that portion of the urethral tract. They resemble minute elevations surrounded by zones of congestion; one or more of such lesions may be present in the fossa. Occasionally some of them will admit a sharp pointed probe for a distance of one-eighth of an inch. The latter condition I designate as urethritis navicularis canellata. The so-called urethrorrhea complained of by the patient is due to the secretion of these glandular structures, for they are nothing else but affections of the urethral glands of this particular portion of the canal. The pain upon the onset of

†Dr. Noah E. Aronstam graduated from the Michigan College of Medicine in 1898; taught dermatology and urology in that institution for eight years. He is the author of a Manual on Venereal Diseases and a contributor on dermatological subjects to domestic and foreign medical journals.



urination may be ascribed to the acid urine passing over the congested areas indicated above.

To summarize: The following are the essential symptoms of affections of the fossa navicularis:

1. Chronic urethrorrhea with or without specific findings.

2. Pain upon the onset of micturition.

3. Palpable plastic exudate elicited with the sound *in situ*.

4. Urethroscopic evidences typical of these lesions.

Treatment: The treatment consists in attacking these lesions by means of the urethroscope. Applications of a 25 per cent solution of silver nitrate are of paramount value in such cases. If the lesions do not yield to this method of procedure, then we are compelled to resort to surgical intervention. If possible a long pointed, sharp, spear-shaped knife should be introduced

into the gland's opening, which is freely incised, after which it may be cauterized with a mixture of tincture of iodine and carbolic acid.

A Graefe point surmounting a long handle, the author's modification, is a practical instrument to use in this simple operation. If the lesions still prove intractable, this method must be repeated. Should the meatus be very small, a meatotomy must necessarily be performed prior to all treatment. By persistently attacking the lesions in this manner, they will ultimately yield to our efforts.

One of the complications to be feared in conjunction with affections of the fossa navicularis is glandular infiltration, with fistulous formation communicating externally with the sulcus glandis. But such an event rarely takes place, and is solely due to secondary infection.

#### DIAGNOSTIC FACTORS CONCERNING HERPES ZOSTER OTICUS

RALPH A. FENTON, Portland, Ore., reviews the etiology and pathogenesis of herpes zoster, pointing out that many otitic and intracranial conditions are simulated by the various manifestations of herpes zoster oticus. Knowledge of the nature and effects of the hepetic virus has lately been amplified by extensive immunologic study. The infectious agent is a filtrable virus, entering probably by the nose or nasopharynx, not by the skin. This specific pathogenic agent becomes localized simultaneously in ectodermal structures—the skin and mucous membrane—and in the tissues of the sensory nervous system. It may travel from the cortex to the periphery or vice versa, vaccinating the neural structures along which it travels, which serve as its culture medium. Herpes zoster is no longer considered to be a ganglionitis alone but rather an ascending or descending infective process due to a specific filtrable virus with definite serum reactions and antibody production. Predisposing factors seem to include excessive heat or cold, exposure, severe physical trauma, nervous shock or exhaustion, and sudden loss of endocrine equilibrium. Granulomatous ailments such as tuberculosis and syphilis seem to increase the vulnerability of peripheral neurons to the specific toxin of this disease. It has been suggested that chronic septic states caused by long-standing colonic stasis, cholecystitis, dental apicitis or nasal sinusitis may similarly facilitate meningeal invasion by the herpetic virus. The skin lesion of herpes zoster, a vesicle, resembles that of smallpox but contains more exudate; it is due to intercellular

edema with local necrosis, and the appearance of Unna's "balloon" cells, large, swollen and multinuclear. Late skin changes include a thickened stratum corneum and proliferation of pigment cells, with depressed fibrotic zones when secondary infection has occurred. Symptoms and signs, in addition to vesicle formation, include pain, an enlarged preauricular lymph node, loss of local tactile sensibility and sometimes vesicles on the anterior two-thirds of the tongue, the anterior pillar or soft palate of the same side. Facial paralysis may supervene four or five days after, rarely coincidental with or preceding the eruption. Pain accompanying facial palsy should always suggest herpes zoster. Vestibular and auditory symptoms—moderate vertigo, slight deafness or buzzing noises—may precede the eruption by several days or appear simultaneously. Various combined nerve involvements have been reported: both facial and auditory nerves; one branch of the fifth; the first cervical, and, rarely, one intercostal nerve along with various cranial divisions. The management of herpes zoster oticus is symptomatic. Since the virus has not yet been isolated, no specific treatment is possible. Local, dry open treatment with non-irritating powders or mild, quick-drying antiseptics will obviate secondary infection of the vesicles and prevent scarring. Cocainization of the sphenopalatine region is often helpful in decreasing the pain and vertigo at the period of geniculate ganglion swelling. After the congestive stage has passed, diathermy may be tried if residual pain is excessive. Decompression of the seventh nerve should not be considered until the paralysis has lasted, unchanged, for at least two or three months.—*Journal of A. M. A.*, Aug. 18, 1934.

# THE JOURNAL

OF THE

## Michigan State Medical Society

---

### PUBLICATION COMMITTEE

J. EARL MCINTYRE, M.D., Chairman.....Lansing  
A. S. BRUNK, M.D.....Detroit  
HOWARD H. CUMMINGS, M.D.....Ann Arbor

---

### Editor

J. H. DEMPSTER, M.A., M.D.  
5761 Stanton Avenue, Detroit, Michigan

---

### Business Manager

B. R. CORBUS, M.D.  
2642 University Avenue, St. Paul, Minnesota, and  
313 Metz Building, Grand Rapids, Michigan

---

JULY, 1935

---

## EDITORIAL

### TESTIMONY IN MALPRACTICE

"Why do physicians not testify against physicians in court?" is a subject of Editorial Comment by the *New England Journal of Medicine*. The topic was inspired by a remark of the secretary of the Grievance Committee of the Boston Bar Association who is quoted as having said: "There is a tendency, I believe, to conceal defective work. There are few things more pernicious than the refusal of one medical practitioner to testify against another. It has become traditional that it is almost impossible to get testimony on cases of malpractice."

The *New England Journal of Medicine*:

"The training of the lawyer is directed to two ends: first, to find the truth, and, secondly, to prevent, in court, by every possible means the appearance of any truth which will impair the claim of his client. If, voluntarily, he introduces in court any truth which hurts his client, he is likely to be regarded as a fool or a knave, or both; in any case, in so far as he introduces such truth, a poor lawyer. If he cannot suppress the harmful truth, he attempts in every possible way to discredit the witness or cast doubt on the validity of his testimony. In his presentation to judge and jury he may do this legally. The essential justice of his procedure need not be discussed now. The lawyer is trained to use his wits in this way and he likes it.

"The training of the physician is directed to finding out the truth. He agrees with the lawyer in this, but he differs in his treatment of the truth when found. He is not trained to make the worse appear the better cause. What would be thought of the physician who intentionally covered up the fact that his patient was suffering from cancer, if he should ask for advice from another physician as to treatment, without the possibility of making any examination? To be sure the practice of medicine and the practice of law are not exactly analogous, but this false analogy brings out an essential difference.

"It is ordinarily not difficult to obtain from physicians opinions as to the soundness of procedures in treatment and as to whether, in a given case, the patient was treated with reasonable care and consideration. However, they object to testifying in court on these points because, in their opinion, the present court procedure is not adapted to making a determination of these points with a reasonable degree of certainty. There should be little more difficulty in finding agreement among physicians in matters brought into court than in matters not brought into court.

\* \* \*

"What is needed, as has been said many times, is that the two professions should unite in the solution of this important problem which they have in common. It will be solved when some individuals are interested enough to think it through."

It is the duty of the physician as it is the duty of every other citizen to aid in the cause of justice where he has dependable and accurate knowledge of the facts in the case and this means that he must be almost an eye witness. How many of us in giving an opinion of the results of another physician's treatment are in a position to know all the facts, among them the extent of co-operation on the part of the patient and his physical condition in regard to response to treatment. The so-called art of cross examination in many instances tends to obscure truth rather than to clarify it. Truth is seldom arrived at through debate. Why not adopt the scientific method? The great achievements of science have been possible only when dialectic was cast aside and replaced by investigation.

Besides, if physicians rushed to testify against one another, medicine would be a very precarious occupation, for in the end much treatment must eventually fail. If vengeance is to be the penalty of failure to satisfy, we are reminded of the old *lex talionis* of the Babylonians which made the art of the healer a most unenviable calling. One reason why physicians are reluctant to testify against one another may be in part explained by the fact that even the most competent may fail to satisfy both himself and the patient. Everyone has had his best



efforts frustrated. To take liberties with a famous sentence: "Let him who is without a failure cast the first stone."

## FRACTURES

To treat fractures, place the fragments in the proper relations or alignment and by splints or other device hold them in the proper position until repair takes place. Simple, isn't it? Perhaps there is no other procedure that physicians are called upon to perform that entails greater anxiety than the treatment of fractures in the protean forms they somehow assume. There may be many factors beyond the control of the surgeon—always damage to the soft tissues, possible interposition of muscle, nerves, or blood vessels, comminution of the fragments of which exact approximation is impossible, non-union for no manifest reason, rarely, and we might add, inability of the patient to coöperate owing to pain or discomfort. All these, or any one of them, may tend to make uncertain the final result in many instances. Each fracture must be handled as an individual case. The majority of fractures, particularly of the long bones, can be treated satisfactorily by non-surgical methods, that is, by reduction and splinting until callus formation is satisfactory.

Greater attention is being given to conservation of the function of soft tissues than formerly by resorting to passive motion as soon as the condition will permit. Not only does early exercise guard against muscular atrophy from dysfunction, it also favors the circulation which promotes callus formation and tends to obviate the osteoporosis that results from disuse.

Success in the treatment, almost needless to say, demands an accurate knowledge of the anatomy of the affected parts. This mental equipment, together with a high degree of mechanical skill on the part of the physician, is more to be desired than expensive and complicated apparatus. Attention to the comfort of the patient, preferably without the use of anodynes, is absolutely necessary if his coöperation is to be secured. An uncomfortable patient cannot do the part expected of him. Casts should be applied so that their removal and replacement are possible without disturbing the pa-

tient. This is essential also if, as advisable, passive or voluntary motion is to be instituted early.

The importance of x-ray examinations before reduction, for diagnosis, and after, to check up the result, cannot be emphasized too strongly. Examination by means of the x-rays is sometimes omitted or used very sparingly to avoid "putting the patient to the expense." This thoughtfulness on the part of the attending physician is seldom appreciated by the patient if the end-result should prove unsatisfactory and sometimes a malpractice suit results where the attendant had only the kindest feeling for the patient. A competent roentgenologist is the best consultant he can have.

Soft tissue injuries will undergo repair if asepsis is observed. Injuries to the bones often undergo repair with deformities that greatly impair normal function. Since the treatment of fractures must prove satisfactory to the patient—and he is the judge of results—the physician who undertakes to treat broken bones should make careful written records, including x-ray examinations as mentioned, inasmuch as all fractures are potentially medico-legal possibilities.

## THE DOCTOR'S WIFE

Who is it that stays hame at nicht?  
Who is't that's a'ways i' th' richt?  
Who watches o'er oor verra life?  
Nane ither than th' doctor's wife.

Who is it that each day we bless?  
Who is it wins oor love's caress?  
Who is't forgives when we've been oot  
An' comin' hame, a'maist atoot?

Who is it fibs on telephone  
An' tells them that we're nae at home?  
Who is't that's a'ways blithe an' gay?  
It's Maggie, oor guid wife,—hoo-ray!

Who is it that sits oop tae wait  
An' thinks that we hae met oor fate  
Frae bullets or frae bandit's knife?  
It is oor bonnie, faithfu' wife.

Who is it that stays hame tae fret  
When we oor hame an' meals forget?  
Who is it that taks a' th' strife?  
Why, it's, of course, oor bonnie wife.

WEELUM.

"The internist is a general practitioner among specialists. He is the one physician who examines the patient as a whole. He it is who pieces together the parts contributed by the several specialists, considers each feature, gives it proper place and emphasis and then endeavors to envisage the whole."

J. S. McLester, M.D., President  
of the American Medical Association.



## The Editor's Easy Chair

### THE DOCTOR IN HISTORY\*

This is the title of a delightful book by Dr. H. W. Haggard, professor of Physiology, Yale University. While meant for lay readers, the subject is one of even greater interest to members of the medical profession. The doctor has always been and must be the most important personage in history whether he is so recognized or not. Even before man evolved, disease stalked among his ancestors in the evolutionary line of descent. Life, all animal and even vegetable life, is confronted with the struggle against disease. The records of disease are found in the pre-historic bones of cave bears and saber tooth tigers. Pathogenic bacteria were coexistent with the earliest forms of animal life. With the dawn of intelligence man sought to overcome this enemy which he personalized, attributing it to evil spirits or to the adverse will of gods which must be appeased by sacrifice of some kind.

The development of medicine, using the word in its broadest sense, was largely a matter of trial and error. Many procedures that had a survival value persisted as well as many things that were worthless, for in matters of hygiene early man was not always a critical observer. Numerous bizarre theories in regard to cause and treatment persisted almost to modern times and in many respects the present generation cannot boast. The fallacious mode of reasoning, *post hoc: ergo propter hoc*, has done much to retard progress in medicine as in other things.

A long period elapsed, one hundred centuries of spirits, ghosts and demons, according to Haggard, before the time of Hippocrates, whose work embodied the best in medical thought of the golden age of Greece. In fact in many respects Hippocrates was more modern than the medicine

of nearly two thousand years after his time.

\* \* \*

The doctor's place in history is unique. While war and conquest have received the major attention of historians, disease has outclassed war as an instrument of destruction of members of the human race.

For centuries medicine was crude and of little value in the prevention of morbidity and in delaying death. Yet men clung to the doctor as a drowning man clings to a piece of driftwood in the ocean. The middle ages were ages of philosophizing and of speculation. Men "reasoned" things out rather than investigate. The lessons of Hippocrates which involved the observation of facts and deductions therefrom, and of Galen who introduced the experimental method, were not heeded. The dogmatic statements of Galen impressed his posterity much more than his endeavor to get at truth through experimentation. Therefore, until almost the fifteenth century but meager results in the way of disease prevention were accomplished.

\* \* \*

The most feeble attempts towards habits of cleanliness would have produced favorable results but the inhabitants of towns and cities, even the well-to-do, were "slum" minded. Any account, and there are many descriptions, of the unhygienic conditions which prevailed in most European cities is appalling. Such conditions provided a fertile field for the great historic plagues which devastated Europe at wide intervals. The unsanitary conditions of towns of the middle ages *sans* sewerage, *sans* plumbing, *sans* pure water supply, *sans* almost everything that would make for health and comfort, is well known to the student of history.

Before trade routes were opened up disease was largely endemic. With the growth of overland and sea commerce, it became pandemic, accompanying the caravan and the ships of the trader. As might have been expected, the Crusades were also instrumental in the spread of disease, but to their credit, they had the effect of promoting a humanitarian spirit in the care of the sick. Among the Greeks and Romans persons who were ill were looked upon as weaklings and therefore held in contempt and treated accordingly. The spread of Christianity changed this attitude, since

\*The Doctor in History, by Howard W. Haggard, Associate Professor of Applied Physiology in Yale University. New Haven Yale University Press, London, Humphrey Milford, Oxford University Press, 1934.



those who were sick were looked upon as being nearer heaven (so they were in the majority of cases) than the strong and healthy. With the Crusades came the age of solicitude for the sick and the first effective efforts towards training doctors for the care of the sick, at Salerno. But the progress of medicine was more or less halting, for eventually the school at Salerno passed out, to be succeeded by a relapse of centuries of darkness until by a circuitous route through Arabia and the Mediterranean to Spain the torch of Greek medicine was carried eventually to Montpellier.

\* \* \*

Speaking of the eighteenth century, Haggard refers to it as the golden age of quacks. In manners and customs the eighteenth was a century of artificiality, of strong class distinction, of powdered wigs and lace ruffs, of elaborate etiquette and of poverty and brutality. The fashionable doctor of England dressed as became an aristocrat, red coat, satin breeches, silk stockings, buckled shoes, a powdered wig and a three cornered hat. He carried also a gold head cane. In the year 1782 a young physician, Jean Nicolas Corvisart, afterwards famous, was refused an appointment to the staff of a Paris hospital because he wore no powdered wig. Parenthetically, it might be added, the reign of terror in France in 1793 placed powdered wigs at a discount, for many of the heads bearing them fell under the guillotine. The physician usually rode in an elegant carriage drawn by a splendidly equipped span of horses which he galloped about London to create an impression that he had a very large practice. The manner of the regular doctor was easily copied by the quack who got away with the show but with a minimum of knowledge. Even men whose names are familiar to all readers of history patronized them. Among the quack's "patients" were Lord Chesterfield, Horace Walpole, Gibbon, the historian of the Decline and Fall of the Roman Empire. One quack (female), with the good of humanity at heart, consented to part with a cure for stone in the bladder for a consideration of 5,000 pounds, which sum was turned over to her by act of parliament. The cure, which was published in the London Gazette in

1739, consisted of a mixture of eggshells, soap, snails together with an assortment of weeds.

And yet this was the century that succeeded Harvey and Sydenham. It was the century that produced Linnæus the botanist, Robert Boyle the chemist, Edward Jenner and many others, some outside the medical profession, whose contributions were of permanent value in the development of medicine as we have it today.

\* \* \*

The stream of history as it flows into the twentieth century finds man more secure against disease than any previous generation of the race, concludes Haggard, and we look in sympathy to the centuries when men groped blindly for the goal which seems almost within our grasp. From a place in the seclusion of the sick-room the doctor, thanks to the discoveries of the nineteenth and twentieth centuries, has come to a period when he may assume social leadership if he will. "The greatest contribution of medicine to public welfare," says the author, "was intelligent cleanliness as a means of preventing the spread of infection. Modern sanitation had its origin in the discoveries of Pasteur, Lister, and Koch. Led by the physician, the civilized world began to clean up, and as it became cleaner the mortality from disease declined and the average length of life increased"; and again, "In the enthusiasm for the social benefits of medical leadership, we have lost sight for a moment of the doctor at the bedside. Sanitation, public health, and public knowledge have not solved all the problems of disease—far from it. What we have witnessed in the three decades of the twentieth century is not so much elimination of diseases as a shift of diseases. As fast as one disease is conquered, another has risen to replace it. Inevitably this must be so. Every man must die; in the long run, there are always as many deaths as births. Few men if any die of 'old age'; disease still claims them. But the diseases change. Only a few years ago tuberculosis was the leading cause of death; today it has fallen to fifth place. In its stead there are diseases of the heart and blood vessels and second to them a newcomer among the leaders of mortality—cancer."

## A MOMENT OF MEDICAL HISTORY

W. T. D.

### SURGICAL ANESTHESIA

"It has long been an important problem in medical science to devise some method of mitigating the pain of surgical operation. An efficient agent for this purpose has at length been discovered." In this way, Henry J. Bigelow introduced the first report of a surgical operation using ether anesthesia. The "operation was performed by Dr. Warren, and though comparatively slight, involved an incision near the lower jaw of some inches in extent. During the operation, the patient muttered, as in a semiconscious state, and afterwards stated that the pain was considerable though mitigated; in his own words, as though the skin had been scratched with a hoe." Bigelow's account also recorded other and more successful cases of anesthesia at the Massachusetts General Hospital and in the dental practice of William T. G. Morton. His article along with nearly twenty other communications in the *Boston Medical and Surgical Journal* (one by John C. Warren) during November and December of 1846 initiated the modern era of surgical anesthesia.

Though Bigelow's article was inspired by the famous demonstration of W. T. G. Morton in October, 1846, many operations in which pain was reduced or allayed and many anesthetic drugs had received attention previously.

The story of pain allaying drugs is an old one. From earliest antiquity, the sedative and hypnotic effects of certain plant juices were known. Mandrake, henbane and poppy were especially popular in the sleeping potions of the Egyptians, Greeks, Romans and Chinese. Such concoctions of herbs containing atropine, scopolamine and opium were widely used as sedatives. The draughts of a wine containing mandragora were particularly common in attempts to make surgery painless. Sleep producing herbs were likewise applied locally on an afflicted region or were rubbed on the skin in the sup-

position that pain would be relieved. Among the natives of tropical South America, the spittle obtained from the chewing of coca leaves was used as a local anesthetic during operations. In Egypt and China, hasheesh was ignited and its fumes were inhaled for their hypnotic effect. General anesthesia likewise was sought in the inhalation of carbon dioxide vapor among the Romans. Fainting was induced by pressure over the carotid arteries. The compression of nerves causing an extremity to "go to sleep" was another method of inducing a certain degree of anesthesia. Many of these practices of suspending sensation were doubtless dependent to a considerable extent on mental suggestion. Some were nothing more than this. In Egypt, crocodile fat was thought to have anesthetic properties when rubbed on the skin. The rubbing of a part with a so-called "stone of Memphis" and vinegar in an attempt to produce local anesthesia became a widespread habit even outside Egypt.

The methods of applying mandragora and other herbs to affected parts, the use of mandragora wine and the technic of compressing nerves received the attention of Dioscorides and other Greek writers and through them were transmitted to the Arabs. Some knowledge of narcotic herbs even penetrated to western Europe.

During the medieval period in southern Europe, hypnotic drugs were widely used. The inhalation of vapors of narcotic plants and the application of narcotic cataplasms and poultices were as popular as the sleeping potions. In the Salernitan school, sponges came to be used as sops for the juices of narcotic herbs. Sponges dipped into the juices of plants were applied to the forehead to induce sleep. From the time of Nicholas, the Salernitan, vapors of the "spongia somnifera" were inhaled. The sponges were soaked or boiled for a time in a concoction of opium, juice of the mulberry, hyoscyamus, juice of the hemlock, juice of the leaves of the mandragora and the wood ivy, lettuce seeds and water hemlock. The sponges were then dried. When wanted for use, they were soaked in hot water and applied to the nostrils so that the odors could be inhaled. The use of sleep producing sponges spread from Salerno into northern Europe. Though the sponges were used with changes in formulæ from



the eleventh to the sixteenth century, they were finally discarded. Their use was uncertain and probably was not adapted to the more complicated types of surgical procedure of the sixteenth century. They were little used in the time of Paré. Paracelsus introduced the alcoholic tincture of opium, and from his time till the advent of ether anesthesia, laudanum and similar preparations were the most important pain killing agents.

In the sixteenth century, Valverdi revived the practice of compressing nerves and blood vessels in the region to be operated. Paré also used this method. Schumann in 1676 described the amputation of a leg in which the "ligatura fortis" was used for the reduction of pain and bleeding. Van Swieten, Theden and Juvet among others advocated ligatures or bandages above the site of amputation. The method was only partly successful in pain reduction, and was but occasionally used in the seventeenth and eighteenth centuries.

The application of cold to an operative site was introduced by Marco Aurelio Severino and Thomas Bartholin, but was of temporary importance till the ether spray method of the mid-nineteenth century.

In hypnotism, a method of producing sleep appeared. Greatrakes, the "Irish stroker," in the middle of the seventeenth century and Mesmer a hundred years later exploited hypnotic technic. Though hypnotism was unpopular with the medical profession generally, hypnotic trances had been used to quiet patients during operations. The French surgeon, Cloquet, in 1829, amputated the breast of a woman who was in a hypnotic state. Occasional operations were performed subsequently with the help of hypnotism in Europe, America and India, but because of possible mental upsets and shock in the patient, hypnotism was usually discouraged.

Real advances in anesthesia were an outgrowth of the studies of chemists during the latter eighteenth century and the discovery of the gases, hydrogen (by Cavendish), nitrogen (by Rutherford), oxygen and nitrous oxide (by Priestley).

The introduction of new gases and studies on their properties, particularly their physiological properties, elicited great interest. The gases captivated the public fancy,

much the way the static machine and the Leyden jar had several decades earlier. As with electricity, the gases seemed to promise much in the way of medical benefits. In 1785, Pierson of Birmingham made use of nitrous oxide inhalation in the treatment of asthma. Four years later, Dr. Beddoes opened the Medical Pneumatic Institute for the treatment and study of diseased conditions by means of the inhalation of gases. He hired Humphrey Davy to investigate the properties of the gases. Davy carried on extensive experiments on the inhalation of gases, particularly nitrous oxide. Among other observations, he found that this chemical when inhaled caused an exhilaration or intoxication. He noted in this respect that the inhalation of the nitrous oxide reduced the pain of an erupting wisdom tooth, and suggested that because of its pain-killing features, it would be valuable in surgical procedure. This latter suggestion was ignored, though the gases were used for the treatment of spasmodic respiratory conditions. The vapor of volatile liquids, such as sulphuric and chloric ether, was similarly used.

In the treatment of respiratory diseases and in the demonstration of the intoxicating effects of nitrous oxide and ether, it had been noted that overdoses caused a state of coma similar to a hypnotic sleep. Davy's experiments were frequently repeated in chemistry classes or by itinerant lecturers and the exhilarating effects of nitrous oxide were widely known.

Between 1820 and 1828, Henry Hill Hickman of Shropshire, England, made further studies on the loss of sensation occasioned by the inhalation of vapors. His experiments on dogs, mice and other animals were chiefly concerned with the inhalation of carbon dioxide gas, though he also used nitrous oxide. He became convinced that anesthesia sufficient for surgical purposes could be secured by inhalation. After attempts in both England and France, he was unable to get support from medical societies in the making of experiments with anesthesia, and his early death cut short what might have been a successful demonstration.

In America, the inhalation of nitrous oxide and ether for their exhilarating effects was common. "Laughing gas" and "ether jags" were not unusual accessories to social

entertainments in various communities. This type of experience with ether led Crawford Long of Athens, Georgia, to consider the possible use of ether as an anesthetic. He noted that persons in a state of intoxication were often unaware of injuries received while under the influence of ether. In 1842, he attempted a surgical operation with the patient subjected to ether. Over a period of several years, he anesthetized and operated on other patients. Meanwhile, in 1844, Horace Wells, a dentist of Hartford, Connecticut, independently discovered anesthesia which relieved the pain of tooth extraction. He used nitrous oxide gas. Though Wells acquired a local reputation for the use of nitrous oxide as an anesthetic, the only publication of his success was an incidental comment in the *Boston Medical and Surgical Journal* of 1845 by C. W. Ellsworth: "The nitrous oxide gas has been used in quite a number of cases by our dentists during the extraction of teeth, and it has been found, by its excitement, perfectly to destroy pain. The patients appear very merry during the operation and no unpleasant effects follow." Though there is now no doubt that both Long and Wells had used surgical anesthesia safely and had performed operations painlessly, their success was purely local and did not lead to the widespread use of anesthetics.

In 1846, William T. G. Morton, a dentist in Boston, and a former associate of Wells, concluded from certain experiments that he had developed a satisfactory anesthetic. He requested an opportunity from John C. Warren to demonstrate the use of inhalation during an operation. This was granted and the exhibition of October 16, 1846, proved successful. Bigelow and Warren published their opinions on the method and with the prestige of the Boston General Hospital back of it, the method of inhalation of anesthesia spread through America and Europe within a few months.

Anesthesia had been sought centuries earlier; presumably successful methods had been proposed, but not consummated; surgical anesthesia had been used for such operations as the extraction of teeth, minor amputations and the removal of tumors, but the method had not previously been broadcast.

By 1847, ether was universally used and studies on the physiological action of the drug were instituted by such physiologists

as Magendie, Roux and Flourens. The latter extended his studies to chloroform. Later in the same year, James Y. Simpson used chloroform in surgical cases and, because of his writings, chloroform almost supplanted ether in England. In America, chloroform was less important than ether. Following 1860, other drugs such as kerosene (1861) and bichloride of methylene (1867) were temporarily used for their anesthetic effects. About this time, nitrous oxide, which had been little used for two decades, came into its own as an important anesthetic. A mixture of alcohol, chloroform and ether, the so-called A.C.E. mixture, came into wide use. Ethyl chloride was known, but it was little used until 1895. Ethylene was not used until much later.

Fatalities occurred in 1847 from both chloroform and ether, and it was soon recognized that anesthetics required skill in their administration. In 1858, John Snow published the results of a ten year investigation dealing with methods of administering anesthesia and the causes of death through anesthesia. Benjamin Ward Richardson and Joseph P. Clover carried the investigations further. The principles of rebreathing anesthetics and of oxygen admixture with anesthetics were introduced with the work of these men.

Many types of chloroform and ether inhalers for the administration and proper admixture came into use. In addition to the inhalation of anesthetics, these agents were adapted for insufflation, for rectal and for intravenous administration. The former two methods were important in certain special operations while the latter method was only of transient importance.

From ancient times, no distinction was made between anesthetic agents for local or for general application. The same drugs which served in general narcosis were thought to act locally, if applied properly. Such drugs as opium and atropine were often applied locally with the expectation that the hypnotic effect of internal medication would be duplicated in local regions. There were early attempts to use chloroform, carbon dioxide and ether locally, but these met with little success. About 1836, Lafargue attempted to treat neuralgias by applying morphine and other medicaments into the tissues in the region of afflicted nerves. He devised a needle-trocar for placing his morphine pastes into incisions over



nerve trunks. Numerous modifications of this technic appeared. Taylor and Washington of New York in 1839 made incisions and injected morphine solutions into a region by means of an Anel syringe, a small instrument with a tapering tip. In 1843, Alexander Wood of Edinburgh adapted a sharpened hollow needle to the syringe so that subcutaneous injections could be made without an incision. Thus, the hypodermic syringe came into use. Rynd of Dublin also used methods of subcutaneous injection in 1844.

It was thought at this time that the local injection of morphine over a painful region caused local anesthesia wholly distinct from any general effects of the drug. Charles Hunter in 1859 showed that injection at a distance was equally effective and thus disproved the old idea that local narcosis should be expected from more general hypnotic drugs. Several decades later, it was found that the injection of water or dilute salt solutions subcutaneously had a brief local anesthetic effect due to the turgor which was induced in tissues. This phenomenon probably accounts for the local anesthesia thought to be characteristic of morphine. Following a suggestion of Claude Bernard in 1869, the injection of morphine came to be used as an accompaniment of general anesthesia.

The introduction of Richardson's ether spray in 1867 and its later modifications for ethyl chloride made cold the first satisfactory local anesthetic. Arnott had previously, in 1848, used bags of ice over the field of an operation for their anesthetic effect.

Local anesthesia with chemicals became a practical measure, after the anesthetic properties of cocaine were discovered. Godke isolated the alkaloid from coca leaves in 1855 and during the subsequent three decades, several studies were made on the pharmacological properties of the drug. Coupard and Borderon in 1880 discovered the anesthetic effect on the eye though it remained for Karl Kollar in 1884 to introduce the drug into ophthalmological practice as a satisfactory local anesthetic. Within a year, William Halstead and James L. Corning had injected the drug hypodermically for its local anesthetic properties. Hypodermic and infiltration anesthesia were further developed by Schleich in Germany. The principle of cerebrospinal anesthesia

was discovered by Corning, though the application of lumbar puncture to major surgery was largely due to the work of Bier (1899) and Matas (1900). The toxicity of cocaine led to a search for cocaine substitutes and to the synthesis of novocain in 1905 by Alfred Einhorn and Heinrich Braun. Numerous other substitutes were later synthesized. Braun also introduced the practice of injecting adrenalin with a local anesthetic so that the latter would not be absorbed as quickly and disseminated throughout the body.

Though morphine had been used in conjunction with general anesthesia in the latter nineteenth century, its widespread use as a sedative prior to or during general anesthesia has been a more recent development. The introduction of barbituric acid compounds by Emil Fischer in 1903 has given the anesthetist an important group of narcotic drugs for combination with anesthesia. These have been used considerably in the past ten years. G. W. Crile of Cleveland has been particularly concerned since 1910 with anesthetics in their relation to the reduction of surgical shock. In his principle of anoci association, local and general anesthetics have been combined; often a general anesthetic is used merely as an analgesic along with a local anesthesia. The selection of anesthetics for particular cases, the combination of local and general anesthesia and the use of narcotic agents in conjunction with anesthesia have been the chief advances of the present century.

#### AN OLD ONE REVISED

Waitress: "Hawaii, Gentlemen. You must be Hungary."

First Customer: "Yes, Siam, and we can't Rumania long, either. Venice lunch ready?"

Waitress: "I'll Russia to a table. What will you Havana?"

Second Customer: "Anything at all, but can't Jamaica little speed?"

Waitress: "I don't think we can Fiji that fast, but Alaska."

First Customer: "Never mind asking anyone. Just put a Cuba sugar in our Java."

Waitress: "Sweden it yourself. I'm only here to Servia."

Second Customer: "Denmark our bill and call the Bosphorus. He'll probably Kanya. I don't Bolivia know who I am."

Waitress: "No, and I don't Carribean. You fellows sure Armenia."

Boss: "Samoa your wisecracks, is it? What's got India? You think maybe this arguing Alps business?"

Both Customers: "Canada noise. Spain in de neck. We Moscow now."

*Digest Magazine, March, 1935.*

## HISTORY OF THE WOMAN'S AUXILIARY TO THE WAYNE COUNTY MEDICAL SOCIETY

Isabel Frances Grace Connelly†

Detroit

In compiling this history of the Woman's Auxiliary to the Wayne County Medical Society, your historian has delved into all available sources of information. The dictionary defines history as "a systematic record of past events—especially the record of events in which man has taken part."

The logical starting place was "The First Twelve Years," the history of the Woman's Auxiliary to the American Medical Association, and search was made for the first mention of Michigan. This was found to be at the Chicago convention in 1924, when Michigan was represented unofficially by Mrs. Guy Kiefer, in the group of interested women gathered to hear the account of the progress of the infant auxiliary. The next mention was at the Minneapolis meeting of 1927-28, where was mentioned the newly organized state of Michigan. Then in the Michigan history, in the same book, we find that on June 16, 1927, at Mackinaw Island, under the organizing chairmanship of Dr. Caroline Bartlett Crane, the State Auxiliary was formed and the first president, Mrs. Guy Kiefer of Detroit, was elected.

In the JOURNAL of the Michigan State Medical Society of May, 1927, was the following:

"The House of Delegates directed the organization of a Woman's Auxiliary. President Jackson appointed an organization committee with Mrs. Caroline Bartlett Crane of Kalamazoo as chairman. During the past month a communication was addressed to each County Society requesting the appointment of a local organizer or committee. Replies have thus far been received from the following . . ."

Then came the names of twelve counties and their nominees, the final one being Wayne County, with Mrs. Robert Beattie, 1455 West Grand Blvd., Detroit, nominated as organizing chairman.

Appearing in the *Bulletin* of the Wayne County Medical Society in November, 1927, was the following:

### FIRST MEETING OF THE WOMAN'S AUXILIARY TO THE WAYNE COUNTY MEDICAL SOCIETY

"Members of the Society are requested to call the attention of their wives to the organization of a Woman's Auxiliary to the Wayne County Medical Society. Mrs. Guy L. Kiefer, the president of the Woman's Auxiliary to the State Society, has set November 16, 1927, at 12:30 p. m., as the time of the first meeting, at which organization, the choosing of objectives, and the election of officers will take place.

"From all that can be gathered, this new group will be a power for good in more ways than one. Affiliated with the state and national organizations, much aid can be rendered by it, in matters pertaining to public health, both in an educational and in a legislative way. Social activities of the Society, too few in number at present, can also be increased in number and extent, and it is hoped that doctors will interest their wives in this worthwhile organization."

It would not be possible to record here the many Detroit women whose preliminary work and interest in the auxiliary idea made possible the organization of our Auxiliary, but it might interest you to know that in response to the call of Mrs. Kiefer, twelve women appeared, and ten of them paid their dues on that first day.

The fact that thirteen sat down to lunch did not bother anyone, for presiding over that table was the benevolent Spirit of Auxiliary.

The thirteen women were: Mrs. Guy L. Kiefer, State President; Mrs. James H. Dempster; Mrs. Jacob J. Rupp; Mrs. Vinton A. Bacon; Mrs. A. H. Whittaker; Mrs. Basil L. Connelly; Mrs. Clarence I. Owen; Mrs. F. P. Mabey; Mrs. J. Hamilton Charters; Mrs. Charles W. Knaggs; Mrs. Charles J. Barone; Mrs. Lawrence F. Eder, and Mrs. George Van Amber Brown.

Of the original thirteen, eight are still active members, Mrs. Kiefer is our one honorary member, two have gone on the inactive list, and two have moved from Detroit and are active in Auxiliaries in their own states.

At this first meeting, Mrs. Max Ballin, a woman of exceptional ability and experience, was chosen to be the temporary chairman for the second meeting and Mrs. George Van Amber Brown, wife of the president of Wayne County Medical Society, was made secretary-treasurer, pro tem.

To Dr. James H. Dempster, president in 1926 and 1927, and to Dr. George Van Amber Brown, president 1927-1928, should go the credit for making possible the organization of our auxiliary. They saw the value and the possibilities for good in such an aid to the Medical Society.

One hundred and twenty-five women came to the second meeting and the first permanent officers were elected on January 28, 1928. On February 13, 1928, the third meeting, the first draft of our Constitution and By-Laws was read and committees were created and chairmen were appointed and the Woman's Auxiliary to the Wayne County Medical Society was a living and vital thing.

Effort to interest doctors' wives in becoming Auxiliary members was one of the main objectives for several years. The frequently asked question "What is the purpose of such an organization?" and the just as frequent excuse, "I belong to so many clubs now, I can't join another," decided the Auxiliary officers to make the purpose so compelling that no ethical doctor's wife could afford not to be a member; and that the procedure of meetings should not be patterned on the lines of a Woman's Club meeting.

Perhaps our most illuminating experience was in the opportunity of being hostess to the Auxiliary to the American Medical Association in June of 1930. Then it was that we were able to lift our eyes from the microscope of self centering interest, and see in a larger way the horizon of unbounding opportunity for doing good.

Following that experience, came years of valuable service to our husbands and to the public.

Our Student Loan Fund made possible the completion of the medical education of an exceptionally gifted and appreciative young man who at present is making a place for himself in the city.

Our Public Relations activities along various lines have been received with enthusiasm by the public.

Our influence has been brought to bear on the legislature, and bills harmful to the medical profession have been defeated, through the efforts of the Legislative Committees.

Hygeia Committees through the years have done much to inform and enlighten the public.

Through the constant and unrelenting labor of the various Press Committees, our position in the city has attained a prominence which it rightfully deserves.

Social affairs have been frequent and varied, but all with the effort to bring about a good fellowship and friendliness. This has been achieved.

Many wholesome activities have developed since

†Mrs. Basil L. Connelly.



the Wayne County Medical Society has been housed in the Whitney mansion. Two innovations in the past two years have caused widespread interest: first, a Study Group, which sponsored two series of lectures on the history of medicine from ancient times through contemporary medicine; second, two Arts and Crafts exhibits giving an opportunity to Auxiliary and Wayne County Medical Society members to show their artistic talents.

The lack of an adequate instrument on which visiting artists could play, brought about the purchase of a \$1,000 Steinway grand piano; which, upon the completion of the purchase, the Auxiliary presented to the Medical Society. The gathering together of that thousand dollars, in the very worst years of the depression period, set an all time mark for unity of purpose among Auxiliary members.

In the earlier days, the Auxiliary strove hard to justify its existence; now it shares the honors and advantages with the Wayne County Medical Society and is taken as a matter of course, and is referred to, and appealed to, and depended on, as it should be. No longer do we offer excuses for being; we are.

Your historian has purposely mentioned few individuals, for she feels that this, of all organizations, has been evolved and developed through the faith, the enthusiasm and the hard, unending effort of every woman who has been an Auxiliary member since its beginning, and to mention one and not another might unwittingly do an injustice.

But the lists of officers throughout these years are recorded and therefore are history. They follow:

- November 16, 1927. Organization meeting.  
Organizing Chairman—Mrs. Guy L. Kiefer.  
Chairman, pro tem.—Mrs. Max Ballin.  
Secretary-Treasurer, pro tem.—Mrs. George Van Amber Brown.
- January 28, 1928.  
President—Mrs. Clarence I. Owen.  
First Vice President—Mrs. Basil L. Connelly.  
Second Vice President—Mrs. John M. Carter.  
Third Vice President—Mrs. H. P. Doub.  
Fourth Vice President—Mrs. A. W. Kipp.  
Recording Secretary—Mrs. Lawrence F. Eder.  
Treasurer—Mrs. Jacob R. Rupp.
- February 13, 1928. Additional officers elected.  
Corresponding Secretary—Mrs. L. B. Cowen.  
Custodian—Mrs. Claire Straith.  
Auditor—Mrs. J. S. Wendell.
- October 10, 1928.  
Mrs. Lawrence F. Eder (resigned).  
Mrs. I. I. Bittker (appointed to take her place).
- December 10, 1928.  
Mrs. C. I. Owen (resigned because of illness).  
Mrs. Basil L. Connelly (first vice president took her place).  
Mrs. John Carter moved into first vice presidency.  
Mrs. C. I. Owen, unanimously made second vice president.
- 1928-1929.  
President—Mrs. Basil L. Connelly.  
First Vice President—Mrs. John M. Carter.  
Second Vice President—Mrs. C. I. Owen.  
Third Vice President—Mrs. H. P. Doub.  
Fourth Vice President—Mrs. A. W. Kipp.  
Recording Secretary—Mrs. I. I. Bittker.  
Corresponding Secretary—Mrs. L. B. Cowen.  
Custodian—Mrs. Claire Straith.  
Auditor—Mrs. J. S. Wendell.
- 1929-1930.  
President—Mrs. Ira J. Dix (resigned March 24).  
First Vice President—Mrs. Stanley Lassaline (too ill to take the presidency).  
Second Vice President—Mrs. Elmer Whitney (acting president—March, April, May).  
Recording Secretary—Mrs. A. W. Kipp (resigned in January).  
Mrs. Elmer Whitney (acting secretary February and March).  
Mrs. Perry Gittins (acting secretary April and May).  
Corresponding Secretary—Mrs. Charles Barone.  
Treasurer—Mrs. Ezra Lipkin.  
Auditor—Mrs. Wm. S. Summers.  
Custodian—Mrs. J. R. Marshall.

1930-1931.

President—Mrs. Andrew S. Brunk.  
First Vice President—Mrs. Alex Cruikshank.  
Second Vice President—Mrs. Geo. Van Rhee.  
Recording Secretary—Mrs. Perry Burnstine.  
Corresponding Secretary—Mrs. Perry Gittins.  
Treasurer—Mrs. W. H. Reiman.  
Auditor—Mrs. F. B. Peck.  
Custodian—Mrs. M. K. Mihan.

1931-1932.

President—Mrs. Edw. Minor (resigned).  
First Vice President—Mrs. R. E. Loucks (became president).  
Second Vice President—Mrs. Claire Straith.  
Recording Secretary—Mrs. L. E. Daniels (resigned).  
Mrs. Zina B. Bennett (appointed).  
Corresponding Secretary—Mrs. L. O. Geib.  
Treasurer—Mrs. Wm. H. Reiman.  
Auditor—Mrs. Walter Wilson.  
Custodian—Mrs. Leslie Henderson.

1932-1933

President—Mrs. Claire Straith.  
First Vice President—Mrs. F. L. Hartman.  
Second Vice President—Mrs. J. H. Dempster.  
Recording Secretary—Mrs. A. O. Brown.  
Corresponding Secretary—Mrs. L. Orecklin.  
Treasurer—Mrs. S. P. L'Esperance.  
Custodian—Mrs. W. L. Hulse.

1933-1934.

President—Mrs. Claire Straith.  
First Vice President—Mrs. Frank W. Hartman.  
Second Vice President—Mrs. James H. Dempster.  
Recording Secretary—Mrs. A. O. Brown.  
Corresponding Secretary—Mrs. Harry Plaggemyer.  
Treasurer—Mrs. S. P. L'Esperance.  
Financial Secretary—Mrs. Wm. Reiman.  
Custodian—Mrs. W. L. Hulse.

1934-1935.

President—Mrs. Frank W. Hartman.  
First Vice President—Mrs. James H. Dempster.  
Second Vice President—Mrs. L. O. Geib.  
Third Vice President—Mrs. F. C. Kidner.  
Recording Secretary—Mrs. Harold J. Hammond.  
Corresponding Secretary—Mrs. Harry W. Plaggemyer.  
Treasurer—Mrs. Roger V. Walker.  
Financial Secretary—Mrs. H. F. Sawyer.  
Custodian—Mrs. W. E. Blodgett.

1935-1936.

President—Mrs. Frank W. Hartman.  
Vice President—Mrs. James H. Dempster.  
Second Vice President—Mrs. Ledru O. Geib.  
Third Vice President—Mrs. Frederick C. Kidner.  
Treasurer—Mrs. Roger V. Walker.  
Recording Secretary—Mrs. Harold J. Hammond.  
Corresponding Secretary—Mrs. Allen W. McDonald.  
Financial Secretary—Mrs. Harold F. Sawyer.  
Custodian—Mrs. Wm. E. Blodgett.

I submit this, not with pride, but with a certain humility at variance with the impressive title of Historian.

## FATAL ASTHMA: REPORT OF CASE WITH BRONCHIAL MEASUREMENTS

The case reported is, Howard M. Bubert and C. Gardner Warner, Baltimore, believe, a fatality from true bronchial asthma. From a pathologic standpoint the changes observed in the bronchial structures as well as the unusual contents of the lumen coincide with those reported by Huber and Koesler and by Alexander and Kountz. In the author's opinion, whorling and inspissation of mucus, together with the heavy eosinophilic infiltration, are characteristic of bronchial asthma. These mucous casts of the small bronchi represent embryonic Curschmann's spirals, which are later coughed up, after the relaxation of the muscle spasm. They should be present "in situ" in those cases in which death comes during an asthmatic paroxysm. The degeneration of the mucous glands is probably the result of prolonged overactivity. The eosinophilic infiltration is as yet inadequately explained. The changes in the heart and kidneys in the case reported were negligible. The slight hypertrophy of the right ventricle was to be expected with partial obliteration of the capillary bed by the associated emphysema. The manifestations of a mild chronic nephritis with some tubular degeneration appears unrelated to the outstanding features in the case.—(*Journal A. M. A.*, April 27, 1935.)

# DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

## THE A. M. A. CONVENTION

Your observer notes that the Weather Bureau estimates that five million tons of rain fell on Atlantic City on the first day—that never in the history of the world have so many medical men attended a convention. With sunshiny weather during the rest of the week, Atlantic City proved once more that it is the ideal place to hold such a meeting.

The auditorium holds seven thousand people and at the opening meeting one thousand or more were turned away.

The commercial exhibits were never so numerous—never better staged and never attracted more attention. Outstanding in excellence, in interest and instruction were the scientific exhibits, of which there were 236. Especially noteworthy was the Diabetic Exhibit, under the supervision of Doctor Joslin, and especially instructive were the talks given every half hour throughout the day, in an adjacent room, by the leaders in the clinical and laboratory study of this disease. This method of covering a special subject has a practical application of greatest value. It was used for other special subjects and drew a large audience. Moving pictures were used freely throughout the exhibit to greatest advantage. Here in the scientific exhibit the progress of medicine, surgery and the specialties could be visualized. Here the practical application of the latest laboratory discoveries and the latest thoughts on the subject were brought simply, clearly and efficiently to the visiting doctor. It was the finest scientific exhibit that was ever put on and this alone would make the trip worth while.

The sections were well attended and the ground of the newest things in medicine and surgery was fully covered by the best minds of Canada and the United States.

### The Business End

It seemed to your observer, as he conversed with various members on the evening before the first session of the House of Delegates, that there was evident an atti-

tude of mind that is perhaps best expressed by the phrase, "Where do we go from here?" It was an attitude which, apparently at least, persisted throughout most of the session. The economic problem was much in the minds of the delegates—the President's Social Security program a frequent topic of conversation. Yet, Doctor Leland's excellent and most informative report from the Bureau on Medical Economics apparently bored the House and it was sent to the Reference Committee only partially read.

This year, after several previous attempts, proponents of some action on the Birth Control question succeeded in getting the subject to the Board of Trustees, who will arrange for further study and investigation.

The House was satisfied to reiterate the principles stated in the 1934 session and at the special meeting of the House of Delegates, to wit:

Opposition to compulsory sickness insurance, opposition to state medicine per se and approval of voluntary sickness insurance, properly guarded in its operation.

Doctor C. Henshaw Kelly made a telling and well received speech in explanation of California's attitude and the occasion for California's sponsorship of the insurance bill before its state legislature.\* Later the House indicated definitely that California was not fully restored to its good graces by refusing to elect the California candidate for member of the Board of Trustees and, not fully satisfied with this bit of discipline, by a narrow margin defeated Doctor Warnshuis, who has been Speaker of the House for thirteen years. Doctor Moll, a candidate for a vacancy on the Board of Trustees, lost to Doctor James R. Bloss of West Virginia, and some Michigan doctors wonder if his defeat could possibly have been contributed to or was influenced by Michigan's vigorous insistence at the Cleveland

\*The California legislature adjourned during the week without passing this bill or any substitute for it.



Session that a definitive policy in regard to health insurance be promptly set up.

A pleasant Virginian, James T. Mason, who transplanted himself to Seattle, Washington, where he became one of the leading surgeons of the northwest, was made President-Elect.

The next Annual Meeting will be in Kansas City in May, a month earlier than usual, in order to avoid the hot weather frequently prevalent in June.

The excellence of the program fully justified the large attendance. The experiment of a joint meeting with the Canadian Medical Association was a great success. Men came from the four quarters of this continent, and were well repaid.

The activities of the House of Delegates were not especially noteworthy. With monotonous regularity, the reports of Reference Committees were adopted without discussion. To some this seemed to indicate a substantial unanimity of opinion and again to others it suggested that this unanimity arose out of a certain confusion of thought or of a lack of sufficient preparedness to intelligently discuss the subject before the House. Changes in the social order, imminent as they are, are not sufficiently well defined for definite action. The responsibility rests heavily on the elected officers and the Board of Trustees of the A. M. A. to protect, as far as they may, the doctor and his patient from ill advised, impractical social experiments and to stand solidly for good medicine, intelligently applied. It goes without saying, that, with this objective, the doctor must have a satisfactory degree of economic security and a definite independence of thought and action.

#### LEGISLATIVE ACCOMPLISHMENTS

**THE AFFLICTED CHILD ACT**—Senate Bill No. 277, was passed in the closing hours of the legislature and was signed by the Governor on May 28. The law permits a Probate Judge to send those afflicted children coming under this law to local hospitals and allows compensation to the attending physicians and surgeons. The cost of the medical and hospital care is assumed by the state and is paid through the hospitals. As in the law which this supplants, the operation of the act is placed under the control of the Crippled Children's Commission, upon which, by appointment of the

Governor, Doctor Harold B. Fenech, of Detroit, represents the profession.

The only opposition to the bill came from the Crippled Children's Commission, who felt that a special appropriation should accompany the bill to make it satisfactorily operative. The Legislative Committee felt that since the bill provides for "reasonable" compensation they could promise the Crippled Children's Commission that temporarily the doctors would be willing to accept a low limit of fees. With this statement, the Crippled Children's Commission withdrew their insistence of an accompanying appropriation, and, upon reiteration by the Legislative Committee of this statement, after the passing of the bill, the Governor signed it. No increased appropriation is made to cover the compensation to the doctor. The Crippled Children's Commission will be compelled to operate the act with the appropriation which was assigned to it before the passage of this act unless authority is granted to incur a deficit, or funds be obtained from other sources. When the act became law the Crippled Children's Commission requested a meeting with authorized representatives of the Society for the consideration of a fee schedule.

Doctor Powers appointed Doctors Luce, Penberthy and Urmston to sit in with the Commission as unofficial observers and to convey the viewpoint of the Michigan State Medical Society to the Crippled Children's Commission. This contact continues. This Committee reports that the Crippled Children's Commission and representatives from the Auditor General's office are thoroughly in accord with the professional ideal which looks to the maintenance of a high class of medical service, together with reasonably adequate fees for the medical profession. However desirable this ideal, the fact remains that this bill was passed without any covering appropriation.

The statement is made that on the basis of the present fee schedule, in the construction of which (Schedule A) the Society was represented by a Committee headed by Doctor John Jackson (August, 1933), the funds available would be exhausted in three months.

Doctor Bradley, Chairman of the Legislative Committee, in the *Detroit Medical News*, says, "This act establishes a broad principle in medical care in Michigan.

This, your Legislative Committee believes, is a definite step forward in medical economics."

The profession will feel that the establishment of the principle will justify certain sacrifices. However, the Committee, working with the Crippled Children's Commission in the attempt to straighten out this knotty problem, is not empowered to bind the Society to any fee schedule though it may feel justified in making some tentative and temporary agreement with the Commission to cover the next two or three months if such action seems necessary in order to permit the work to go promptly forward. When and if the Crippled Children's Commission and the Auditor General find the funds to carry on this work, the membership will be promptly notified.

The Legislative Committee, in addition, are able to report that House Bill No. 256, raising the fee for mental examinations from \$3.00 to \$5.00 passed without opposition and that the Osteopathic Bill, which was simply for the regulation of practice in their own group, was passed and was not deemed worthy of special opposition.

The Legislative Committee, Doctor J. B. Bradley, Chairman, Doctors L. G. Christian, Philip Riley, Wm. Hyland and L. J. Gariepy, who had the valuable assistance of Doctor H. E. Perry, well versed in the work by reason of his experience, have worked very hard over many weeks. The Society will appreciate the sacrifices which this Committee has made in its effort to produce real accomplishments in legislative matters for the Society.

#### AS THE MATTER NOW STANDS

##### MICHIGAN CRIPPLED CHILDREN COMMISSION

400 Hollister Building  
Lansing, Michigan

June 10, 1935.

To the Supt. of Approved Hospitals:

Afflicted Children

Act 274, Public Acts of 1913, which provides for medical and surgical treatment of afflicted children, was amended by Act 94, Public Acts of 1935, which became effective on May 28, 1935, and which, among other changes, places the payment of physicians' and surgeons' fees upon the State and requires that a fee schedule be established.

We wish to advise that at a meeting of the Crippled Children Commission on June 6, 1935, it was recommended to the Auditor General that the present fee schedule "A" be re-adopted, but due to the

fact that there were no funds appropriated with which to pay the excess costs provided for in Act 94, that payment to physicians and surgeons be made while funds are available, at fifty per cent of the fee schedule "A" and when such funds are exhausted, at two per cent of the schedule "A."

The following exceptions shall apply under the fifty per cent reduction: tonsil and adenoid cases shall be billed at a rate not to exceed \$7.50; and medical cases be limited to a maximum charge of \$20.00 regardless of the number of visits made or the length of time the patient is served.

You may, therefore, proceed to bill physicians' or surgeons' fees in accordance with the above instructions from Schedule "A" which you have on file.

No charge is made, at least for the present, in Fee Schedule "B."

Respectfully submitted,  
MICHIGAN CRIPPLED CHILDREN  
COMMISSION  
Per Harry H. Howett,  
Secretary-Treasurer.

### WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, President, Kalamazoo.  
MRS. F. M. DOYLE, Secretary, Kalamazoo.

#### Bay County

The Bay County Auxiliary held its annual meeting, May 1, at the Elizabeth McDowell Bailey Nurses Home. Dinner was served preceding the business session. The following officers were elected: President, Mrs. L. F. Foster; president-elect, Mrs. A. L. Ziliak; vice president, Mrs. R. E. Scrafford; secretary, Mrs. Kenneth Stuart; treasurer, Mrs. H. M. Gale; corresponding secretary, Mrs. Edwin C. Miller.

The last meeting of the year was held on May 29 with a dinner meeting at the Wenonah Hotel. The following committee chairmen were named by Mrs. L. F. Foster, president: Mrs. R. C. Perkins, program; Mrs. A. D. Allen, membership; Mrs. C. F. Tarter, publicity; Mrs. M. R. Slattery, dinner arrangements; Mrs. D. J. Mosier, telephone. Mrs. L. F. Foster was elected delegate to the State Convention to be held in September at Sault Ste. Marie with Mrs. A. L. Ziliak as alternate. Mrs. Slattery was in charge of the dinner, at which places were laid for twenty-three at tables centered with spring flowers.

#### Jackson County

Fifteen guests from Ingham, Calhoun and Kalamazoo County auxiliaries attended the luncheon meeting of the Jackson County Auxiliary which was held May 21 in the gardens of the J. C. Smith home. The Kalamazoo County president, Mrs. R. J. Hubbell, told of her group's activities during the past year and Mrs. F. T. Andrews, state president, gave a brief report on "Medical Legislature Proceedings." Dr. Louis Hirschman, of Detroit, gave an illustrated talk on "Some Japanese Impressions."

Among those who attended were Mrs. Guy L. Kiefer, state chairman of organization; Mrs. J. Earl McIntyre, state historian, and Mrs. E. S. Peterson, state chairman of legislation.

#### Kalamazoo County

The coöperative dinner served at 6:30 at the home of Mrs. C. L. Bennett on May 21 was followed by



the annual business meeting of the Woman's Auxiliary to the Academy of Medicine. Officers elected were, as follows: President, Mrs. C. L. Bennett; president-elect, Mrs. Clarke B. Fulkerson; first vice president, Mrs. W. W. Lang; second vice president, Mrs. H. A. Rigternik; secretary, Mrs. Ralph B. Fast; treasurer, Mrs. James G. Malone. Mrs. Jerome R. Head, Chicago, wife of the speaker for the evening at the Academy of Medicine meeting, was a guest.

Mrs. I. W. Brown assisted Mrs. C. L. Bennett as hostess. Thirty members were present.

### Saginaw County

Thirty-five members of the Saginaw County auxiliary motored to Freeland Friday, May 24, for their regular meeting held in the form of a luncheon at the Idle Inn Cafe.

Luncheon was followed by a short business session conducted by the new president, Mrs. Milton G. Butler, who announced the appointment of the following as committee chairmen: Program, Mrs. W. P. Martzowka; entertainment, Mrs. Cecil W. Ely; membership, Mrs. Robert Jaenichen; legislative, Mrs. F. J. Cady; press, Mrs. L. C. Harvie; *Hygeia*, Mrs. D. E. Thomas; public relations, Mrs. W. H. Pickett; flowers, Mrs. H. J. Meyer.

The members were entertained at a social meeting afterward at the home and Dr. and Mrs. Frank Ostrander in Freeland. Following bridge, the guests enjoyed a visit to the Ostrander gardens.

### Tuscola County

The Tuscola County Auxiliary held its annual meeting in April and elected the following officers: Mrs. Maurer, of Reese, president; Mrs. Race, of Caro, vice president; Mrs. Hoffman, of Vassar, secretary; and Mrs. Bates of Kingston, treasurer.

Mrs. Savage, past president, states that "our attendance has greatly increased and the papers assigned by the program committee have been well written and enjoyed by all. We hope to promote the circulation of *Hygeia* in the county schools this year and carry out as many suggestions as possible from the Medical Society and the State Auxiliary."

## OBITUARY

### Dr. Philip D. Amadon

Dr. Philip D. Amadon of Monroe, one of the leading young surgeons of the state, died of pneumonia in the University Hospital at Ann Arbor on June 9, 1935.

Graduating from the University in 1926 he spent the four years following in the University Hospital as interne and resident and was also junior and later senior instructor in the medical school. He was a member of Alpha Omega Alpha, an honorary medical fraternity, and a member of Beta Chapter, Phi Sigma, an honorary biological society.

He established his office in Monroe in 1930 and quickly allied himself with the local society, in which he was a very active member. In 1931 he was elected as delegate to the state society and continued in the office of delegate until his death. He was a fellow of the American College of Surgeons.

## MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner  
LANSING, MICHIGAN

### Meningitis and Poliomyelitis

It is perhaps well at this time to consider the probabilities of an increased prevalence of meningococcus meningitis and possibly of outbreaks of the disease during the next year or so. Michigan was last visited by a severe outbreak of this disease during 1929 and 1930. For the year 1929 there were 1,864 cases reported. The outbreak continued on through the winter months of 1930 and 901 cases were reported for that year. Thus, for this two year period there was a total of 2,765 cases, which is approximately three times greater than for any other two year period since 1900, when accurate records were first kept.

Since 1930 meningitis has been decreasing in incidence in Michigan until 1935. For the year 1934 there were 53 cases reported. There have already been 42 cases reported for the first five months of this year, and this number is twice the number reported for the same period of 1934. The incidence, although somewhat increased, is still quite low, but most significant is the fact that meningitis has throughout the country been running almost three times higher in incidence during 1935 thus far than for the corresponding period of 1934.

Meningitis is a somewhat seasonal disease, its highest incidence usually being in the spring months. Therefore, we may hope that there will be no outbreak or sudden increase in incidence until another winter or spring. Nevertheless, it is the history of meningitis that the endemic incidence builds up gradually over a period of two or three years until it reaches a peak, at which time there are apt to be sharp outbreaks with very high death rates. Such an outbreak occurred in Saginaw during the winter and spring months of 1929. In this outbreak there were 264 cases and 85 deaths.

The U. S. Public Health Service calls attention to the general increase in incidence in the Public Health Report for May 10, 1935. While we may escape any great incidence or severe outbreaks for another year or two it is well to keep in mind that judging from the epidemiological behavior of meningitis we may expect to have more meningitis during the next two or three years than we have had for the same period just past. It is well for physicians to be sharply on the lookout for possible cases of the disease.

It may not be amiss in connection with a warning regarding meningitis to speak also of poliomyelitis, inasmuch as we are now approaching the season of increased incidence and these two diseases are sometimes confused and rather difficult to differentiate.

The incidence of poliomyelitis has so far this year been quite low, seven cases for the first five months as compared to fourteen for the same period in 1934. If these small figures have any significance we would not expect any great increase in incidence of poliomyelitis during this year.

C. D. B.

### Interchange of Death Certificates

During the last few years there has been an interchange of information between the states relative to deaths. This is a voluntary matter and each state sends to the Bureau of Census at Washington each month copies of the death certificates of resi-

dents of other states dying in their state. These are then distributed to the various states through the Bureau of Census.

This is exceedingly valuable information and it will increase in worth as time goes on. Very often in the attempt to adjust a real estate title it is necessary to prove the death of some individual and there may be no one available who remembers when and where the individual died.

An interesting case of this kind came up a short time ago when a prominent attorney from one of our cities came to our office for a copy of the death certificate of a resident of his city. There was no record on file but he was very insistent that the person had died in that city. On further examination of the records, we discovered that the person had died in New York State, and we were able to refer him to the certificate number in the New York files and he secured his necessary copy without any difficulty.

This department does not issue copies of death certificates from other states, because, of course, we do not have the original certificate, but it answers every purpose if we can refer the inquiry to the proper state with definite information as to their file number of the record.

In some states it is probable that the movement of a sufficient number of deaths might affect the death rate. In Michigan, however, this is not true.

It is interesting to note that during the year 1934, 523 Michigan residents died in other states according to returns that have been made to this department, and at the same time there were 517 deaths of residents of other states in Michigan. These figures almost balance off. There were only three states in the Union which were not affected one way or the other by this interchange of certificates with Michigan. These were Delaware, Idaho and Nevada. This reciprocal interchange of certificates is followed by Canada, but not by other countries. There were 47 Michigan residents dying in Canada and 55 Canadian residents died in Michigan. In addition to this there were four other deaths of persons from foreign countries. This included one each from "Europe," England, Australia, and Brazil. A tabulation by states appears below.

States	Michigan Residents Dying in Other States	Residents of Other States Dying in Michigan
Alabama	3	2
Arizona	10	2
Arkansas	1	0
California	30	8
Colorado	6	1
Connecticut	3	2
Delaware	0	0
District of Columbia	3	2
Florida	42	10
Georgia	3	1
Idaho	0	0
Illinois	99	92
Indiana	39	61
Iowa	4	11
Kansas	4	2
Kentucky	3	3
Louisiana	1	1
Maine	0	1
Maryland	5	0
Massachusetts	5	4
Minnesota	0	6
Mississippi	2	1
Missouri	2	9
Montana	1	0
Nebraska	2	1
Nevada	0	0
New Hampshire	0	1
New Jersey	3	5
New Mexico	5	0
New York	33	25
North Carolina	2	0
North Dakota	1	0
Ohio	88	98
Oklahoma	0	6
Oregon	0	2
Pennsylvania	3	13
Rhode Island	1	0

South Carolina	0	1
South Dakota	1	2
Tennessee	3	2
Texas	0	3
Utah	1	0
Vermont	1	0
Virginia	1	0
Washington	0	1
West Virginia	0	5
Wisconsin	62	74
Wyoming	3	0
Canada	47	55
Other Foreign	0	4
Total	523	517

W. J. V. D.

### What Is Happening to Diphtheria?

To those of us who have been watching the progress of diphtheria over a period of years, the thought naturally arises as to what is going to happen. Diphtheria is not a disease of marked periodicity, but history tells us that there have been waves of diphtheria sweeping over the world at intervals, with apparently increasing virulence at times. The last few years have been marked by great activity on the part of health departments in their efforts to control this disease. To what extent the remarkable downward trend of recent years is due to a natural decline and how much of it is due to immunization is very hard to determine.

During the first four months of 1935 there were reported for the state 178 cases of diphtheria, as compared with 236 in the corresponding four months of 1934. This is a decrease of 25 per cent. Comparing this to the mean for the first four months for the last five years, we find a decrease of 71 per cent.

If we go further and compare these figures with those for 1921, the year in which there were more cases of diphtheria reported than in any other year in the record history of Michigan, we find that during the first four months of 1921 there were reported 4,008 cases, as compared with the 178 cases for the same period in 1935, just fourteen years later. This is a decrease of 95.5 per cent.

Should there be a tendency within the next few years for this disease to rise again in one of its waves, the state will have the advantage of the great amount of immunization that is being carried on in practically all sections, and the children of Michigan should be in a better position to resist diphtheria than ever before. It is hoped that no such wave will come, but we cannot afford to relax for one moment our efforts to put the state in the best possible position to meet such an event.

### AN UNUSUAL CASE

Eugene F. Traut, Oak Park, Ill., reports the case of a woman, aged 26, who within a period of three weeks (previously healthy) developed stupor accompanied by fever, leukocytosis and bacteremia. The spinal fluid was clear but showed pleocytosis, increased globulin and an abnormal colloidal gold curve. The febrile stage and the deep stupor lasted three weeks. Various chemicals, vaccines, serums and hyperpyrexia were used. They are not known to have altered the course of the illness. Excepting occasionally scopolamine for sleep, she has had no medication since Feb. 28, 1934. She was given more than 1,000 feedings by nasal catheter without developing aspiration complications. The patient is very well nourished and has good color. Her muscles are large and strong. She has not spoken or made any purposeful movements except those of defense. She lies inattentive with shut eyes most of the time. The pupils do not react to light or in accommodation. The left great toe is constantly and rigidly hyperextended. She is fed by spoon or a catheter in the mouth. (*Journal A. M. A.*, April 6, 1935.)



## COMMUNICATIONS

May 31, 1935

Burton R. Corbus, M.D.  
Grand Rapids, Michigan  
Dear Dr. Corbus:

We are directing this communication to you, first, because we have an important duty to perform in connection with it, and, secondly, because you are in position to be of assistance to us in arriving at the basis of a task which is vitally important to the health of Michigan working men and women.

Act Number 119 of the Public Acts of 1911 provides that:

"Every physician attending or called upon to treat a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic or mercury, or their compounds, or from anthrax, or from compressed air illness, contracted as a result of the nature of the patient's employment, shall send to the state board of health, who shall transmit to the commissioner of labor a notice stating the name, postoffice address and place of employment of the patient, the length of time of such employment, and the disease from which, in the opinion of the physician, the patient is suffering.

"Any physician who shall fail to make any report required by the preceding section, or who shall wilfully make any false statement in such report, shall be deemed guilty of a misdemeanor and on conviction thereof shall be punished by a fine of not more than fifty dollars.

"It shall be the duty of the commissioner of labor and of the prosecuting attorney of the county where any one violating the provisions of this act may reside, to prosecute all violations of the provisions of this act which shall come to the knowledge of them or either of them."

The information which this law requires is of inestimable value to the Department, and the physicians are the only ones who can furnish it. It will enable us to investigate and remedy the conditions which have and are constantly contributing to these ailments. It will aid us materially in improving the health situation of the state.

Your immediate and hearty coöperation will be deeply appreciated.

Very truly yours,

FRANK B. WADE,  
*Commissioner of Labor.*

### **An Important Medico-Legal Verdict**

Editor, Journal Michigan State Medical Society:

By request I gave the alleged facts of a malpractice case which I recently tried, to a group of doctors, and it was suggested that I prepare a brief statement to be published in the State Medical Journal to illustrate how far reaching are the claims today made against physicians and surgeons.

The allegations in the suit to which I refer consisted of charging a surgeon with negligence in failing to properly diagnose the condition of a patient's eye. The diagnosis made was "melanoma or melanoma sarcoma, either of which might be malignant."

The plaintiff was sent by a Veterans' Hospital and accompanied by the physician in charge of the hospital to the defendant's office to have his eyes examined and after the usual examination for glasses the doctor, in the dark room, used an ophthalmoscope and then, on account of the unusual condition of the eye, asked a consultation from another specialist, and while they both had a definite opinion as to the condition they did not tell the patient but advised that he be taken to an eminent specialist in Chicago who was connected with the Veterans' Hospital for examination. The doctor who originally made an examination of the defendant in this suit

agreed to pay the expenses of the patient to Chicago and return in order that he might have the benefit of a renowned authority. This was done and the condition of the eye was pronounced melanoma or melanoma sarcoma by the surgeon in Chicago, which diagnosis was confirmed by the defendant in this case.

The plaintiff refused to adopt the opinion of the Chicago specialist and said that he desired to go to Detroit for further examination, which he did, and he was examined by an eye man connected with the Veterans' service in Detroit, and also by four specialists of unquestioned skill in Detroit and the plaintiff was advised by the physician in the Veterans' Bureau that he did not believe that there was a malignant condition in the eye but that he hoped that he would go to other specialists, as he might be deceived. None of the other physicians pronounced the disease malignant but said it might be and advised the patient to have himself watched carefully.

For some time before this examination the patient had been suffering from pulmonary tuberculosis and he claimed that on account of the shock received from the diagnosis given, which he claimed to be a wrongful diagnosis, his tubercular condition became greatly aggravated and he lost weight through nervousness, inability to sleep, inability to eat, all of which he blamed on the defendant for his alleged wrongful diagnosis.

Depositions were taken of eminent men in the field of tuberculosis and of the eye, and witnesses came from Chicago to identify the picture taken of plaintiff's eye, and also the assistant of the specialist in Chicago was present and testified as to what he saw, as the specialist in the meantime had died. It was necessary to bring the actual operator of the machine which was used to take the picture as counsel for plaintiff would not agree to admit the photograph unless it was identified by the person who made it, and under the rules of evidence it was necessary to bring the person who took the picture from Chicago to identify it. The original plate was not available but the photograph was admitted on the testimony that it had been compared with the original plate and it was an actual reproduction from the plate.

After the trial, which lasted for seven days, the case was submitted to the jury but the Court took away from their consideration the question of aggravating damages resulting from shock because there was no physical injury but only the alleged wrongful diagnosis, basing his decision on the case of *Nelson v. Crawford*, 122 Mich. 466, which was the first case in this state to hold that there could be no recovery simply for nervous shock unaccompanied by physical injury.

This case established what was known as the "Michigan rule" in opposition to the so-called "Texas rule" which held there could be recovery for nervous shock unaccompanied by physical injury.

The Court, however, did submit to the jury for its consideration the question of the money which the plaintiff claimed he had expended in traveling about the country and for money which he had expended for doctor bills for further examination, provided the jury held that there was error in the diagnosis which constituted negligence, and I might add in this connection that under the law of this state there is no liability for an error in diagnosis provided the physician uses the usual and ordinary methods employed in like localities in making his diagnosis. In other words, he is not liable for an honest mistake of judgment if he uses the means ordinarily used in this and like localities in arriving at this diagnosis.

The jury returned a verdict of no cause for action against the doctor.

This case is novel in that (1) it is the first malpractice action of its kind to be brought in Michigan; (2) because the court re-affirmed the doctrine in the case of *Nelson vs. Crawford*, which was decided in 1899, that there could be no recovery in a malpractice action where there was only nervous shock and no physical injury; (3) because the court restated the doctrine that a physician or surgeon is not responsible for an honest mistake of judgment provided he uses the proper methods of diagnosis; (4) as illustrating the necessity of using the approved methods in arriving at a diagnosis, and illustrating how far reaching are claims now being made against reputable physicians and surgeons.

HERBERT V. BARBOUR,

Attorney for the Michigan State  
Medical Society.

Detroit, June 22, 1935.

## GENERAL NEWS AND ANNOUNCEMENTS

The annual meeting of the Michigan State Medical Society will be held at Sault Ste. Marie September 23 to 26, inclusive.

\* \* \*

The symphony orchestra composed of members of the Wayne County Medical Society will broadcast over the radio this fall. The particular station and time has not yet been announced.

\* \* \*

The Beaumont Foundation lectures under the auspices of the Wayne County Medical Society have appeared in this Journal. The 1935 lectures by Dr. Lewellys F. Barker may be obtained in book form, bound in cloth, by mailing one dollar to the Beaumont Foundation, Wayne County Medical Society, 4421 Woodward Avenue, Detroit.

\* \* \*

The 1935 Michigan Legislature amended the Osteopathic Law (act number 162 of the public acts of 1903) on the last day of the Session. The amendment, however, according to the analysis of the amended law by the Detroit Medical News, does not give osteopaths equal rights with physicians. The amendments appear to concern only osteopaths within the cult.

\* \* \*

According to a recent news item from Washington, a demand that a \$2,000,000, 600-bed veterans' hospital be built in Michigan, if any money from the \$4,000,000,000 work-relief fund is used for any hospital project, has been made on General Frank T. Hines, veterans' administrator, by a group representing Michigan veterans. General Hines agreed, after a conference with Frank A. Picard of Saginaw, Representative Albert J. Engel of Lake City and representatives of all veterans' organizations, to advocate construction of the hospital to the Government's hospital committee.

\* \* \*

Shakespeare's Psychopathological Knowledge: A study in Criticism and Interpretation, is the title of a unique paper by Dr. Irving I. Edgar of Detroit which appeared in Volume 30, Number One of *The Journal of Abnormal and Social Psychology*. The paper is the result of the author's research on this

interesting subject. Dr. Edgar's position is that Shakespeare was above all an artist and portrayed the characters of Elizabethan England as he observed them, or where his plays are based on chronicles he took the characters as he found them, that he did not possess the knowledge of neuropsychiatry as developed three centuries after his time.

\* \* \*

The sympathy of his many friends in the profession is extended to Doctor F. C. Warnshuis, whose youngest son, Robert, died very suddenly on June 9, 1935. Robert was twenty-four years old. He was employed by the Bruce Publishing Company of St. Paul, the publishers of our Journal. He was a young man of great promise with a personality which had made him many friends.

The word of his death came to Doctor Warnshuis upon his arrival at Atlantic City. With great courage, he immediately left for Grand Rapids and returned by plane from the funeral to preside as Speaker on the second day's session of the House of Delegates.

\* \* \*

Dr. W. H. McCracken, Dean of the Detroit College of Medicine, now the Medical Department of Wayne University, has tendered his resignation owing to ill health. He will, however, maintain his connection with the college as Professor of Pharmacology. His successor has not yet been appointed. At the meeting of the Board of Education, June the eleventh, Dr. W. J. Stapleton, of Detroit, was appointed assistant dean of the College. Dr. Stapleton, who has practised medicine in Detroit for over thirty years, is well and favorably known to the medical profession of the state as former chairman and present secretary of the Executive Board of Medical Defense and also as chairman of the radio committee.

\* \* \*

### Bill 277

The disposition of cases of indigent afflicted adults and afflicted children of indigents has been a matter of concern of the medical profession of the state for a long time. Legislation has been passed requiring that these patients be cared for in hospitals and by physicians of the county in which such patients live, with the understanding that the state would pay the hospital and the county would reimburse the physician or surgeon. In some counties this arrangement has been satisfactory; in others the hospital received its remuneration from the state but the county, owing to lack of funds or other reason, failed in its duty to the physicians. It was finally agreed that the county pay for major surgical operations at the rate of \$30.00 each and other operations in proportion. Bill 277, which was introduced into the Michigan legislature the past session, required the state to undertake the payment of the surgeon and, in medical cases, the physicians as well as the hospital. The bill was passed. Problems arising out of the application of the law have been more or less confusing, and a source of much study and effort on the part of the crippled children's commission and members of the medical profession. No very definite arrangement appears to have been arrived at to date. In view of this and the fact that this Journal comes out monthly, members are advised to write their councillor for any latest developments in the meantime.

\* \* \*

### Northern Tri-State Medical Society

The Executive Board of the Northern Tri-State Medical Society held its Annual Meeting at the Detroit Boat Club on June 12. The financial, membership and social reports were all of an exceedingly gratifying nature and reflected marked progress



and improved standing in this progressive Tri-State organization.

Present at the meeting and at the dinner were: Drs. H. E. Randall, W. H. Marshall of Flint, Edward P. and Norris Gillette of Toledo, E. B. Pedlow and Beauchamp of Lima, Ohio, also Jones of Lima, B. L. Thutt of Elida, Ohio, G. O. Larson and J. N. Kelly of LaPorte, Ind., and L. T. Rawles, J. E. Sparks, H. M. Senseny, and H. A. Ray of Ft. Wayne, Indiana. Dr. Wm. Donald of Detroit acted as host, and ex-officio Counsellor.

The Tri-State Medical Society next meeting will be held in April, 1936, at Fort Wayne, Ind., under the leadership of Dr. Edw. Gillette, Toledo, President, and Dr. Jon Kelly, LaPorte, Ind., Secretary. The following year the meeting is to be held at Jackson, Michigan.

\* \* \*

#### A. M. A. Atlantic City Meeting

Michigan was well represented at the eighty-sixth annual session of the American Medical Association held at Atlantic City, June tenth to fourteenth. Many doctors drove to the convention. The scientific sessions were of a joint nature with the Canadian Medical Association. The house of delegates of the American Medical Association elected Dr. Nathan B. Van Etten to succeed Dr. F. C. Warnshuis as speaker and Dr. H. Shoulders of Nashville, Tennessee, was elected to succeed Dr. Van Etten as vice-speaker. Dr. James Tate Mason was made president-elect. Dr. Mason, who is 53 years old, has practiced Surgery in Seattle since 1905. He was graduated from the Medical Department of the University of Virginia in 1905. Dr. Mason, besides being a member in the American Surgical Association, American Association for the Study of Goitre and Fellow of the American College of Surgery, has a splendid record as a contributor to surgical literature.

The eighty-seventh annual meeting will be held in Kansas City.

The reports of the various standing committees are of interest. They appear in full in the *Journal of the American Medical Association* for June 22, and should be carefully studied by every member.

\* \* \*

#### Post Graduate Medicine

The annual luncheon tendered to those instructors who took part in the post graduate courses in Detroit under the auspices of the post graduate department of the University of Michigan was held at the Wayne County Medical Society clubrooms, June 18; about sixty members were present. Dr. J. M. Robb presided. Dr. J. D. Bruce, director of post graduate medicine and vice president of the University, addressed the assembled instructors, tracing the growth of the movement. From small beginnings, last year witnessed an enrollment of over eleven hundred. The present year bade well for an enrollment of over fifteen hundred. Michigan leads in the systematizing of post-graduate medical studies. He spoke of the necessity of such work, not only for general practitioners, but also for specialists. Dr. Bruce spoke of the demand for special training for those who offered themselves as specialists.

Public health education was also an important matter. About twelve years ago the joint committee on public health education was formed. During its activity as many as 240,000 had been reached among high school students and parent-teacher associations and other organizations. The university had already an organization in its university extension work so that it seemed expedient for the extension department to administer this phase of the work, of the

joint committee. The depression had greatly lessened the activity of the joint committee owing to the depletion of finances. Dr. Bruce expected that the work of the joint committee would soon be resumed with greater vigor than ever. An enlightened public should go hand in hand with a progressive medical profession.

In conclusion, he emphasized the importance of what he termed personal preventive medicine. Public health and prevention of disease had been very satisfactorily cared for as seen in the conquering of such infectious diseases as typhoid, diphtheria, smallpox and others. There is, however, a large field in the matter of prophylaxis, against nervous disorders and such diseases as affect the cardiovascular and cardiorenal systems.

## OF GENERAL MEDICAL AND SURGICAL INTEREST

### BASIC SCIENCE BOARDS

There are now nine states which have basic science boards, and a basic science law has recently been enacted in Iowa. Moreover, such laws are pending in a number of other states. The figures as to the operations of the boards are significant. Of the physicians examined by such boards last year, 11 per cent failed; of the osteopaths, 36.7 per cent failed; of the chiropractors, 69.2 per cent failed, and of those unclassified, 62.5 per cent failed. Figures of this kind should indicate more definitely than any argument the importance of establishing minimum standards of education for all who propose to heal the sick. The data indicate equally the fact that this minimum of education is not available to the vast majority of osteopaths, chiropractors and other cultists who wish to practice the healing art. The records for the period 1927 to 1934 are even more convincing. From the percentage of failures in the non-medical group, it is clear that the basic science boards render a most valuable service to the people of the states which have established such restrictions on those in the practice of medicine. The basic science board is particularly desirable in those sections which have a multiplicity of examining boards, giving the people the security that comes with the knowledge that those who practice any form of healing have at least a certain minimum qualification in the way of general education.—(*Journal A. M. A.*, April 27, 1935.)

### SLIGHT AND LATENT JAUNDICE: SIGNIFICANCE OF ELEVATED CONCENTRATIONS OF BILIRUBIN GIVING INDIRECT VAN DEN BERGH REACTION

Hendrik M. Rozendaal, Mandred W. Comfort and Albert M. Snell, Rochester, Minn., analyzed 214 cases in which the concentration of the bilirubin was 2 mg. per hundred cubic centimeters of serum or greater, and in which the van den Bergh reaction was indirect. In 138 cases, hemolytic disease was absent; in seventy-six cases it was present. Increased concentrations of bilirubin in the cases in which hemolytic disease is absent means, in their opinion, hepatic dysfunction. The dysfunction has been found to be either constitutional or secondary to hepatic injury. In hemolytic disease, excessive hemolysis is the accepted explanation of the in-

creased concentration of bilirubin. The almost universal presence of some degree of hepatic injury associated with hemolytic disease suggests, however, that hepatic injury and dysfunction may also be partly responsible for elevation of the concentration of bilirubin. The indirect reaction supposedly rules out the presence of hepatic injury. Actually, however, bona fide hepatic disease has been demonstrated in many cases of this series. Moreover, the authors have witnessed the van den Bergh reaction change from direct to indirect during convalescence from the hepatic injury while increased concentration of bilirubin was still present. The concentration of bilirubin subsequently returned to normal. They have also seen increased concentrations of bilirubin in serum which never had given a direct van den Bergh reaction return to normal concentration as the process of reparation in the liver proceeded. For these reasons, it appears that an indirect reaction in serum containing bilirubin in amounts more than normal does not always mean hemolytic disease and in fact may definitely point to associated hepatic injury. Some patients who complain of being bilious actually have slight hepatic dysfunction. The dysfunction may be constitutional or secondary to hepatic injury. It is not clear that all symptoms actually are due to the hepatic dysfunction, but it is probable in some instances that the hepatic dysfunction may be only one of the manifestations of a widespread sympathetic or toxic reaction. The evidence strongly suggests that among patients who have constitutional dysfunction of the liver, at least of a degree great enough to produce jaundice, disease of the gallbladder is prone to develop. Of the cases studied, in 29 per cent cholecystic disease already has developed. The percentage may increase as these patients grow older. The mechanism for secretion of bilirubin is a sensitive one. It is influenced by emotion and by disturbances of the sympathetic nervous system, as well as by minor degrees of hepatic injury. An increased concentration of bilirubin may be the one laboratory evidence of dysfunction and it should be used more widely. It will in all probability disclose many unsuspected cases of mild functional and organic disturbances of the liver as well as a group of individuals of a constitutional type especially susceptible to disease of the gallbladder.—(*Journal A. M. A.*, Feb. 2, 1935.)

#### TREATMENT OF ACUTE EMPYEMA IN CHILDREN

In eight cases of unilateral empyema in children, Harry Koster, Jacob Rosenblum, Louis P. Kasman and Henry Lerner, Brooklyn, employed induction and maintenance of an artificial pneumothorax on the sound side to favor drainage and cause earlier obliteration of the empyema cavity. The method was developed following the observation in one case of bilateral empyema that drainage instituted on the side more markedly affected resulted in clearance of the suppuration within seven days. It seems that the most likely explanation for the phenomenon was that the compression of the untreated side by the effusion resulted in more rapid expansion of the lung on the side of which drainage had been established. Immediately after the administration of the pneumothorax the patients began to breathe more rapidly and more deeply. The increase in amplitude of respiration was especially noticeable on the side of the empyema. A short time after this there was a copious purulent discharge from the drainage tube. In most cases the increase in rate and depth of respiratory movements was unattended by any subjective respiratory distress. In one instance there

was moderate dyspnea, and this was accompanied by a forceful ejection of pus from the empyema cavity. Two children complained of slight pain in the chest and shoulder for three or four minutes following the administration of pneumothorax. Following the introduction of the artificial pneumothorax in these cases, the clinical appearance of the patient became markedly improved. The temperature fell rapidly, so that the average duration of fever in the uncomplicated cases was less than seven days. Pocketing was not noticed. The appetite improved quickly and the children gained weight rapidly. By the fourth day after the introduction of the first artificial pneumothorax, most of the pus had been evacuated from the chest. There was very little drainage at that time and the cavity became smaller as the lung expanded. Between the seventh and the tenth day after the introduction of the first artificial pneumothorax, the cavity was usually too small to contain 25 c.c. of surgical solution of chlorinated soda. The average period until there was no more drainage of pus was 13.7 days after the thoracotomy. The obliteration of the cavity is demonstrated by comparisons of x-ray films taken before and after the introduction of the artificial pneumothorax. The only complication was subcutaneous emphysema in two cases, which disappeared in from two to four days.—(*Journal A. M. A.*, April 27, 1935.)

#### CLINICAL MUTATIONS IN LYMPHOBLASTOMAS

Udo J. Wile and Frank Stiles, Jr., Ann Arbor, Mich., report a case of unusual duration showing definitely a mutation from clinical mycosis fungoides to Hodgkin's disease. When first examined in 1921 it presented the features emphasized by Ormsby in the differentiation of mycosis fungoides from the other lymphoblastomas, while at a later date it gave the characteristic changes of Hodgkin's disease. If one is to believe that the two conditions are distinct entities, there are but two ways to explain this case: first, that it is a case of mycosis fungoides in a patient who has later developed Hodgkin's disease also and, second, that the disease was originally a case of Hodgkin's disease which was at first misinterpreted as mycosis fungoides and only later recognized. The first explanation seems a poor one, since it requires two diagnoses to explain a condition that has been continuous. The second explanation also seems inadequate, since this case in the early part of its course possesses all the characteristics that identify the premycotic stage of mycosis fungoides as an entity. A more logical explanation, and one that is easier to understand, is that this case presents a malignant disease of the lymphoid tissues, first involving the lymphoid structures in the skin and producing the picture that is recognized as mycosis fungoides, and later involving the lymph glands themselves, producing the picture that dermatologists have learned to classify as Hodgkin's disease. In the slow growing types of lymphoblastoma there are apt to be more fibroblastic proliferations. Fibrosis in the lymph glands in Hodgkin's disease is one of the important diagnostic changes, and this is well marked in this particular case. It is interesting to note that this case has shown unusually slow progress, the known duration extending over a period of eighteen years. It is not improbable that the irradiation received by the patient has been influential in preventing the late picture of mycosis fungoides and may have been influential in the production of fibrosis, which constitutes an important part of the pathologic picture in Hodgkin's disease.—(*Journal A. M. A.*, Feb. 16, 1935.)



## THE DOCTOR'S LIBRARY

*Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.*

**CLINICAL LABORATORY METHODS AND DIAGNOSIS.** A Textbook on Laboratory Procedures, with their interpretation by R. B. Gradwohl, M.D., Director of Gradwohl Laboratory, St. Louis. Cloth. Price \$8.30. Pages 1025. 328 Illustrations, 24 color plates. C. V. Mosby Company, 1935.

Gradwohl's new textbook on Clinical Laboratory Methods and Diagnosis is a veritable library in a single volume. Were this book presented in a thin paper edition, it would serve as an excellent "vade mecum" for all interested in laboratory procedures.

The author, well qualified through long years of teaching and actual experience in laboratory technic, has brought together, within a single volume, every worthwhile laboratory procedure. The technic of each laboratory test is given in detail, and described so that the "pitfalls and errors" in the performance of tests are easily avoided.

The illustrations, for the most part, are entirely new, and the numerous colored charts are of distinct aid. In addition to the usual chapters on hematology, parasitology, bacteriology and pathology, one finds space given to postmortem examinations and toxicological technic.

A final chapter covers the listing of the minimum supplies and equipment for the establishment of a pathological laboratory.

J. S. B.

**PHYSICAL DIAGNOSIS.** By Warren P. Elmer, M.D., B.S., Associate Professor of Clinical Medicine, Washington University, School of Medicine; Assistant Physician to Barnes Hospital; Physician-in-Charge, Missouri Pacific Hospital; Consulting Physician to Jewish Hospital, St. Louis, and St. Louis County Hospital, and W. D. Rose, M.D., late Associate Professor of Medicine in the University of Arkansas, Little Rock, Ark. Seventh Edition. St. Louis: The C. V. Mosby Company, 1935.

In this edition, Part I, is devoted to subject matter, which is found to be of use in making a physical examination of the normal subject. Inspection of the entire body is discussed at length. The findings in the normal body are made plain by the use of photographic illustrations. Under the subject of palpation, attention is given to palpation of the radial pulse. The author believes that much information as to the condition of the circulatory apparatus can be gained by this means. Normal and abnormal percussion sounds are discussed and the physiologic explanation for many abnormal percussion phenomena is given. Normal auscultatory signs in both respiratory and circulatory systems are given and various deviations from the normal, together with the mechanics of their production, are explained. Special diagnostic procedures, as thoracentesis and spinal puncture, have their significance explained and the method of procedure is given.

Sherwood Moore, M.D., Professor of Radiology, Washington University, School of Medicine, gives an outline of the physics involved in the production of x-ray and in its application to the human body as a diagnostic instrument. He traces the development of contrast radiography and gives a comprehensive discussion of the variations in radiographic density of various structures and the use of x-ray in differentiating them.

Drew Luten, M.D., Associate Professor of Clinical Medicine, Washington University, School of

Medicine, gives a general discussion of the subject of electrocardiography. While he makes no pretense of comprehensiveness, by means of reproductions of electrocardiograms, he enables the student to acquire some knowledge of the subject.

In Part II, the author takes up the various diseases of the respiratory and circulatory systems. He gives their clinical pathology and follows with a discussion of their physical signs. The use of x-ray is explained and x-ray findings are described and illustrated. Electrocardiographic tracings are shown and their significance is explained.

**DISEASES OF THE SKIN.** By Richard L. Sutton, M.D., Sc.D., LL.D., F.R.S. (Edin.), Professor of Dermatology, University of Kansas, School of Medicine, and Richard L. Sutton, Jr., A.M., M.D., L.R.C.P. (Edin.), Assistant in Dermatology, University of Kansas, School of Medicine with 1310 illustrations, and 11 colored plates. Ninth Edition, Revised and enlarged. St. Louis: The C. V. Mosby Company, 1935.

In this edition, the arrangement of the subject matter is much the same as in previous editions. Considerable attention is paid to the anatomy and physiology of the skin. The general symptomatology and diagnosis of skin disease is discussed in a manner that appeals to the student and practitioner. The subject of treatment in general is well covered. Such methods of treatment, as actinotherapy, Roentgen and Grenz rays, radium and mesothorium are given due consideration. High frequency and fulguration currents, together with desiccation and endothermy, are also discussed. A bibliography, which is given at the end of the discussion of each subject, is very complete, giving references to both the American and foreign literature. Illustrations are invaluable in a work of dermatology. This book is replete with good illustrations. Some are in color. In his treatment of each dermatologic condition, Doctor Sutton leaves little to be desired. His description of symptoms and signs is thorough and complete. His discussion of etiology and of pathology is full. Prognosis and diagnosis are given. His handling of the subject of treatment of each condition is not excelled. In the preparation of this ninth edition, Dr. Richard L. Sutton, Jr., who has aided his father in some previous editions, has written the descriptions of several diseases and conditions that have been included for the first time in this edition.

**THE PRINCIPLES AND PRACTICE OF UROLOGY:** By Frank Hinman, A.B., Leland Stanford Junior University; M.D., Johns Hopkins Medical School. Clinical Professor of Urology at the University of California Medical School. 1111 pages with 513 illustrations and 48 tables. Cloth, \$10.00 net. Philadelphia and London: W. B. Saunders Company, 1935.

The purpose of this work is "the presentation of the principles of urology in a form which would be of practical use to the medical student and the man in general practice." It includes everything necessary for the teaching of medical students. The physician in general practice will find it entirely satisfactory for his needs. Anything outside the scope of this work belongs to the specialist in urology. An interesting feature of this book is the section on comparative anatomy dealing with urinary excretion, reproduction and comparative anatomy of the urinary and genital association and of the urogenital union. Then follow chapters on embryology and normal structure and function. There is among others an interesting chapter on radiography which is hardly within the ambit of the general practitioner. Perhaps the same might be said also of cystoscopy. However, these procedures are important and the general practitioner should understand the significance of the findings. The author rightly

maintains that no examination of the kidneys is satisfactory without an x-ray examination and gives an instance of renal insufficiency due to a large stagnorn calculus which gave no backache nor hematuria. The work is well illustrated and completely indexed. It is authoritative and will be found to meet the requirements of the class of reader for whom it is designed.

---

**CLINICAL MANAGEMENT OF SYPHILIS:** A Handbook for Everyday Practice. By Alvin Russell Harnes, M.D., Chief of Congenital Luetic Clinic, New York Hospital. Price \$1.50. New York: The MacMillan Company, 1935.

The author has presented the subject of therapy of syphilis in great detail. He has emphasized certain points in the every-day treatment of the disease which are not commonly known. Among these the importance of special laboratory examinations; he advocates the practicing of treating every syphilitic woman during each pregnancy, whether she has been previously treated or not. There are presented day-by-day and week-by-week tables indicating medication for a period of three years. The work comprises only sixty-five pages, including a number of illustrations; both illustrations and text will be found invaluable to the general practitioner who is confronted with the problems of treating syphilitic disease.

---

**THE KIDNEY IN HEALTH AND DISEASE.** In contributions by eminent authorities. Edited by Hilding Berglund, M.D., and Grace Medes, Ph.D., with the collaboration of G. Carl Huber, M.D., Warfield T. Longcope, M.D., and Alfred N. Richards, Ph.D., M.D. 754 pp. Illustrated with 163 engravings. Phila.: Lea & Febiger, 1935.

This work on the kidney is arranged in six major sections dealing with (1) Anatomy and physiology, (2) Clinical aspects of renal functions, (3) Bright's disease and various other pathological renal conditions, (4) Albuminuria and edema, (5) Ocular changes in Bright's disease and (6) Clinical aspects of Bright's disease. Forty authors coöperated in the work and most are widely known as authorities on the kidney. Several chapters are written by German, Dutch or Swedish workers.

In 1930, a symposium on the structure and function of the kidney in health and disease was held in Minneapolis and the material covered during the symposium, supplemented by subsequent studies, represents the substance of the present volume. The work is indexed and is well documented by references.

---

**DOCTORS AND JURIES:** The Essentials of Medical Jurisprudence. By Humphrey Springstun of the Detroit Bar. Philadelphia: P. Blakiston's Sons and Company, 1935. Price, \$2.00.

The members of every profession or vocation should have a clear understanding as to their position before the law in any community. The physician with whom this little work is concerned should have a clear understanding of his rights and liability. Mr. Springstun had made this possible in an interesting non-technical little work of one hundred and fifty-five pages. There is nothing in it that one practicing medicine should not know and on the other hand he should be conversant with all the subjects discussed in its twenty-eight chapters. Physicians unaccustomed to appearing in court

as witnesses are apt to be terrified when the occasional time arrives when they are called to testify before judge and jury, and many times they make a sorrowful spectacle. There are works on medical jurisprudence that are very complete but very few of them are in medical libraries of physicians and they are more rarely consulted than any other book pertaining to the practice of medicine and surgery. Mr. Springstun's book can be read in a single evening or two. He gives good advance on testifying and the function of the expert witness. One of our members, Dr. William J. Stapleton, Jr., who, as is well known, possesses also a degree in law, has written the introduction in which he commends the work for its clarity and simplicity of diction. This work will give the doctor an introduction to the law as it effects his profession. Now will somebody write a book that will give the lawyer a similar introduction to medicine?

---

### ADAM POLITZER

One hundred years ago Dr. Adam Politzer was born. He was professor of Otology at the University of Vienna. The laity knows about Politzer on account of the world-wide use of the Politzer air douche in treatment of the ears. The medical profession knows Politzer on account of his outstanding pioneer work in otology, on account of his textbook which has appeared in many editions, on account of his magnificent history of otology and his many other contributions. Politzer's textbook is still the "otologic bible." We have known Politzer and keep a warm memory of him not alone as a teacher, but as a man. His modest personality, his zeal and industry, his dignity, his quiet unassuming elegance of manners could not fail to leave a lasting impression on everybody who met him. Instinctively one felt that one was in the presence of a great man. When in September, 1907, Professor Politzer gave up his chair at the University on account of his age, the otologists of the world united in honoring him. We read in the memorial address of his friends and pupils the following: "Thousands are the number of those who have received instruction and knowledge at this place but innumerable are those who are indebted to you for the cure of their ills and the continuation of their health and their lives. A small and little appreciated special branch of medicine, laying somewhat distant from the main road, has become, during these forty-five years, an acknowledged, even a prominent, comprehensive branch of medicine with full rights. It has become a systematically ordered edifice based on a sum of therapeutic and diagnostic facts, which rests on a firm anatomic-physiologic foundation, which understands and explains the pathologic changes and their outer signs and which is based on a rational therapy which dares to solve tasks, successfully, which have been considered unsolvable, decades ago. The history of this tremendous progress is also the history of your work. Please accept the homage of those mentioned here as the representatives of a far larger number of men, distributed over all countries and continents, who look up to you as master and teacher, who is, by right, justified to carry the title of another 'Magister Orbis.'" Politzer lived a full life. He did pioneer work in his field. His industry was phenomenal. With all the respect and appreciation laid willingly at his feet, he remained modest and unassuming, seeking his recreation in the arts in order to gather always new strength for his task to teach and to help the afflicted. "The trace of days, he spent on earth, in eons will not perish."—Schiller.

DR. EMIL AMBERG.



# THE JOURNAL

## OF THE

### *Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. 34

AUGUST, 1935

No. 8

#### INDIVIDUALIZED ANESTHESIA\*

REUBEN MAURITS, M.D.†

GRAND RAPIDS, MICHIGAN

I am happy to discuss before the internists and surgeons of the Michigan State Medical Society the subject of "Individualized Anesthesia."

The surgeon owes the science of anesthesia a debt of gratitude. The surgery performed previous to the era of anesthesia was of a limited and minor character, performed upon a resisting and forcibly restrained patient suffering extreme agony. Since the advent of anesthesia and its evolution, it has become possible for the art of surgery to attain the high degree of efficiency and skill, so that, at the present date, the surgeon may explore with deliberation and dexterity practically every part of the anatomy of a quiet, relaxed or sleeping patient.

There should be no hesitancy in a full cooperation between the surgeon and the anesthetist. The anesthetist does not get a square deal, and neither does the patient, when he is requested to anesthetize a seriously ill patient of whose condition he has not been previously informed.

The anesthetic agent or agents, and the manner of their administration, must be adapted to the individual, to the pathology in question and to the various pathological conditions which may complicate the case. What type of individual is the prospective surgical patient? Is he robust, muscular, athletic, obese, or is he flaccid, inactive or emaciated? Is he neurotic and apprehensive or stable and calm? Is he a child? Is he in the prime of life or aged? What is the character of his pathology? Is it of a septic nature, does it involve some vital organ? Is it located in the head, on the face or neck, in the breast or abdomen? What other

abnormalities, if any, complicate the pathology? Is it co-existent with pulmonary tuberculosis, toxic thyroid, organic heart disease, diabetes or nephritis? All of these various phases of the patient must be considered in the selection of the proper anesthetic agent and the method of its administration.

This comprehensive knowledge of the patient by the anesthetist can be obtained only by his careful study of the patient in conjunction with the internist and the surgeon in charge. The problem of the patient having been thoroughly studied, the surgeon and the anesthetist are in a position to determine the proper pre-operative preparation and the selection of the anesthetic which will be most suited to the individual and will allow the surgeon to perform the necessary operative procedure with the minimum of harm to the patient.

There is no single anesthetic agent which can be used routinely. The modern anesthetist should have at his disposal several anesthetic agents which he should be able to use with skill and experience. Skilled anesthetists are usually available in the larger medical centers, but this is not always true

\*Read before the 114th Annual Meeting of the Michigan State Medical Society.

†Member of Congress of Anesthetists, Chairman, Department of Anesthesia, Blodgett Memorial Hospital, Grand Rapids, Michigan.

in some of the smaller communities. If there should be some one doctor in a community who has the natural qualifications and is interested in this specialty it would be to the advantage of both the surgeon and the patient to encourage him in order that he may develop his proficiency and experience. This doctor should visit the larger medical centers and receive instruction and experience, not only in the administration of ether, but also in the use of gas-oxygen, spinal and avertin anesthetics. If he is financially unable to acquire such training, it would be of infinite advantage to the surgeon to advance the necessary funds.

I will now briefly review some of the accepted anesthetic agents and describe some of their effects upon the tissues of the body, both beneficial and deleterious. The most common anesthetic agents employed today are ether, gas-oxygen, avertin, ethyl chloride, spinal and local infiltration.

### Ether

Ether is still a very reliable, efficient and comparatively safe anesthetic agent when properly administered in selected cases. With the exception of sub-arachnoid block, no other anesthetic agent will produce the degree of relaxation in abdominal surgery, and this is particularly so in the robust, muscular, athletic, alcoholic and obese types. There is more nausea and vomiting following its use and therefore the intake of fluids and nourishment is delayed. It frequently lowers blood pressure by either depressing the vasomotor constrictors or stimulating the vasomotor dilators. It depresses the general vitality of the patient so that convalescence is somewhat retarded. Hemoglobin is reduced about three per cent and there is some cell destruction in the liver and kidneys. This is particularly so in prolonged anesthesia. No more ether should be given than each individual patient requires. Ether is an irritant to the respiratory tract and it is therefore contra-indicated in acute and most chronic diseases of the respiratory tract as in pneumonia, bronchitis, bronchiectasis and empyema of the pleural cavity. It is contra-indicated in nephritis and eclampsia. It liberates glycogen from the liver and therefore increases hyperglycemia, hence coma may ensue if ether is used in unprepared diabetic patients. It is also contra-indicated in patients who have severe

liver damage. Ether should be avoided for patients who have previously experienced an ether idiosyncrasy such as excessive and prolonged vomiting. Its use is prohibited in the presence of an open flame or cautery.

### Gas-Oxygen

Nitrous-oxide-oxygen and ethylene-oxygen do not produce so profound a degree of anesthesia as does ether. Ethylene is more potent than nitrous-oxide. Ether may be added to increase their efficiency. In abdominal surgery one cannot produce the same degree of relaxation with gas-oxygen as with ether. This is particularly true in the robust, muscular, alcoholic and obese types. The surgeon who wishes to employ gas-oxygen in abdominal surgery must be content with less relaxation and must be more gentle in his manipulation of the peritoneum and viscera. When there are no contra-indications for a general anesthetic, gas-oxygen can be used in practically every type of surgery and accompanying complications. It is non-toxic, produces no blood or other tissue changes. It does not irritate the respiratory tract and has no deleterious effect upon the kidneys or liver. It may produce a slight temporary increase in blood sugar due to a necessary degree of anoxemia. It is rapidly eliminated, and post-operative vomiting is greatly diminished. Fluids and nourishment are taken early and therefore convalescence is hastened. Patients do not feel so depressed and exhausted as after an ether anesthesia. Gas-oxygen stimulates respiration and circulation and sustains blood pressure due to the fact that it increases carbon-dioxide in the blood. Gas-oxygen is the best anesthetic agent to sustain blood pressure and therefore is indicated in the weak, aged and hypotensive patients.

### Spinal Anesthesia or Sub-arachnoid Block

Spinal anesthesia or sub-arachnoid block has a definite place in the field of anesthesia. Its scope is limited to operations below the diaphragm. There is no other anesthetic agent which will produce an equal degree of muscular relaxation in abdominal surgery. This is particularly so in the muscular, robust and obese types of patients. It is a comparatively safe procedure in operations in the lower abdomen and the lower extremities. It is more hazardous in upper



abdominal surgery, since the upward extension may not be perfectly controlled, and the phrenic nerve and the accessory respiratory muscles may become involved. The safety of the spinal anesthetic depends upon the extent of the anesthesia and upon the person administering it. Some degree of dulling of the sensorium is necessary so that the patient may not be perturbed by the fear of being hurt, by the prolonged uncomfortable position on the operation table and by the noise of instruments and conversation. The pre-operative administration of some barbiturate plus morphine and hyoscine will produce a considerable degree of narcosis and amnesia and sleep at intervals.

Blood pressure is usually reduced by spinal anesthesia. The fall is greater in upper abdominal than in lower abdominal surgery. This reduction in pressure is due to a partial or complete blocking of the splanchnic sympathetics, a vasomotor dilatation in the vessels in the parts anesthetized and an absorption by the arachnoid vessels of the solution which thus enters the general circulation. The amount of novocaine absorption is in direct proportion to the dose injected. Surgical situations may arise when a spinal anesthetic might be almost essential, for instance when infiltration anesthesia would be insufficient in a case of an acute abdomen complicating pneumonia. The vigorous types of patients are the better risks, while the hypertensive cardiac, hypotensive, arterio-sclerotic, anemic, septic, aged and shocked are the poorer risks.

The drugs most commonly used are novocaine for operations lasting from one-half to one and one-fourth hours, pantocaine one to two hours, and nupercaine two to three hours or longer.

### Ethyl Chloride

Ethyl chloride is placed between ether and chloroform in toxicity. It acts very rapidly. It should be used only in operations of very short duration where the anesthetic can be stopped when the stage of surgical anesthesia has been reached; for instance, incising an abscess or a paracentesis. An ethyl chloride-ether sequence will avoid the initial unpleasant effects of ether.

### Avertin

Avertin or tribromethanol is used by some as a complete anesthetic agent. How-

ever, it is generally considered as a basal anesthetic requiring supplemental gas-oxygen or ether. It is a circulatory, respiratory and muscular depressant,—an effect that is considered to be due to depression of the centers of circulation and respiration. It does not cause any serious changes to the body tissues excepting slight transient depression of kidney and liver function. The glycogen content of the blood is increased accompanied by some acidosis. Its use is questionable in the presence of diabetes. It is detoxicated by glyuronic acid in the blood stream, and is eliminated entirely by the kidneys. It should not be used in severe kidney damage, as its elimination would be delayed and possibly prevented. Due to its depressant effect on circulation and respiration it is contra-indicated in patients who have a marked pulmonary obstruction, or who are feeble, anemic, cachetic or hypotensive.

The dose of a basal anesthetic, which depends on age, condition and metabolic rate of the patient, ranges from 50 to 100 mgm. per kilo of body weight. It is administered rectally in a two and one-half per cent properly prepared solution. We have never observed any great respiratory depression when the smaller doses are used. Ephedrin is beneficial both as a stimulant to sustain a falling blood pressure and as a precautionary medication to prevent a drop in pressure if administered just previous to the avertin.

Our most grateful patients are those who have received avertin anesthesia. The enema may be given in the room with or without the patient's knowledge. In the course of ten minutes the patient is asleep and remains so until a few hours after surgery. He then falls into a secondary sleep which may last for several hours.

We return the patient to the room retaining the airway until it is voluntarily ejected, which prevents the tongue from obstructing the pharynx.

### Local Infiltration Anesthesia

Infiltration anesthesia should be used in all cases where a general anesthetic is contra-indicated. There are no contra-indications in its use; it should be used in the aged or in patients whose general condition is very poor.

### Paregoric and Whiskey

Infants do not tolerate ether well. A few drops of a mixture of paregoric and whiskey (paregoric one-half to one dram, whiskey one to two drams) administered by mouth at frequent intervals before and during operation, produces a satisfactory degree of narcosis. This may be combined with infiltration anesthesia.

### Pre-operative Sedatives

The pre-operative administration of sedatives, such as sodium amytal, nembutal, pantopon, morphine, morphine and hyoscine and avertin relieves the patient's fears and apprehensions and brings about a state of amnesia. They facilitate the induction and smoothness of the anesthetic and reduce considerably the amount of anesthetic required. When gas-oxygen is used, the oxygen per cent can be considerably increased. This combined use of sedatives, narcotics and anesthetic agents is termed "Balanced Anesthesia" by Lundy of the Mayo Clinic.

Based upon this brief résumé of some of the effects of these anesthetic agents upon the body tissues, I will try to apply these principles to some of the various surgical conditions with which we frequently come in contact. I would like to state at this time that when any anesthetic agent is recommended it is to be understood that there are no contra-indications in its use.

### Head Surgery

When one operates on a patient in an unconscious or semi-conscious condition due to some trauma,—such as skull fracture or increased intra-cranial pressure, or from tumor or hemorrhage,—which requires head surgery, no anesthetic is usually required. If the patient's mental state is normal, morphine-avertin anesthesia supplemented by ether or gas-oxygen given by the intra-tracheal method would be indicated. The intra-tracheal technic assures free ventilation and allows the anesthetist to be removed from the surgical field. The supplemental ether may also be administered by means of the mouth hook or intranasal catheters. Morphine and hyoscine with or without a barbiturate may be used in place of the avertin.

Most of the face plastic operations can be performed under infiltration anesthesia or by the above mentioned methods.

### Thyroid Surgery

The surgical thyroid cases may be divided into two groups: first, the simple adenoma; second, the toxic adenoma and the hyperplastic thyroid. In the simple adenoma, open drop ether or gas-oxygen can be used. I prefer gas-oxygen because the degree of anesthesia can be quickly lessened in order to ascertain any injury to the recurrent laryngeal nerve and also a cough or gagging reflex may be quickly induced. This reflex some surgeons desire before closing in order to develop any possible bleeding points.

Toxic thyroids require careful consideration. These patients all have some degree of tachycardia, may have a fibrillating heart and hypertension due to an overactive heart. Many of the milder cases stand surgery well; for them I prefer gas-oxygen anesthesia. Most of the toxic thyroid patients who come to surgery have had rest and Lugol's solution. The majority of these patients stand surgery well. These patients do not always respond properly to this pre-operative treatment when they are given an anesthetic. Crotti's<sup>1</sup> rule, I believe, is a safe technic to follow. It is somewhat as follows:

I. When a patient is being anesthetized the heart rate will rise to a given level. When the stage of surgical anesthesia has been reached, the pulse rate will drop to about where it was or a little higher but it will remain decidedly below the high level. That patient is a good surgical risk.

II. The heart rate will go up to a given level but instead of coming down when the stage of surgical anesthesia has been reached it will remain persistently at that level. That patient is not a good risk. The operation should be postponed.

III. The heart rate will jump up to a certain level and instead of coming down or remaining stationary it will continue to rise. "Do not operate, wait for a better chance."

The thyroid cases who have a decompensated heart must be given rest and digitalis before surgery is attempted. When recovery has taken place, they may be operated under open drop ether, gas-oxygen or local infiltration. All bad heart cases must be operated under local anesthesia.



### Heart Disease

A cardiac murmur does not necessarily mean that the person has heart disease, since murmurs may be heard in eight to ten per cent of patients who show no other evidence of heart disease. When a cardiac murmur is heard, a careful search should be made for definite signs of organic disease, such as hypertrophy, dilatation, thrill, râles, edema, definite signs of mitral stenosis or aortic insufficiency, changes in blood pressure, or signs of angina. If one or more of these signs are present a definite diagnosis of heart disease may be made. A history of rheumatic fever will aid in the diagnosis.

Older people who become easily fatigued, show evidence of shortness of breath upon slight exertion or even when at rest, and have attacks of fibrillation, may have grave myocardial disease. A physical examination may show no evidence of hypertrophy, dilatation or heart murmur. Such cases are always bad surgical risks and should receive a local anesthetic.

The valvular heart case, which gives no past or present history of a congestive heart—such as, dyspnea, râles in the chest, enlarged liver or swelling of the lower extremities,—can be given a general anesthetic. All patients who give evidence of a decompensation should receive a local anesthetic. After rest and treatment, they may receive a general or local anesthetic.

Hypotensive or hypertensive heart cases should be given an anesthetic such as gas-oxygen or local infiltration, which will sustain the blood pressure and prevent brain anemia.

### Diabetics

A diabetic patient is not necessarily a bad surgical risk but he is an exceedingly bad risk if this condition is not known. An anesthetic administered to an unknown diabetic may result in a catastrophe.

A routine examination of the urine is absolutely necessary before any patient is operated. The laboratory report should be checked by the anesthetist.

A known diabetic, who has been properly prepared and whose carbohydrate tolerance has been increased, is a good surgical risk and should be operated under gas-oxygen or spinal anesthesia. If these agents are not available, he may be given ether, but I would advise that he be given 20 to 25

grams of glucose and a small dose of insulin two or three hours before surgery.<sup>2</sup>

The glycogen content of the liver of a diabetic is low and the liver does not retain glycogen long; therefore some carbohydrate fortified by insulin should be used pre-operatively. When a known untreated diabetic comes to surgery that is not imperative, it would be better to delay the operation in order that the patient may receive proper treatment. If the operation is imperative and the surgery would ameliorate the hyperglycemia, as in acute or chronic infections, infected gall bladder or hyperthyroidism, he may be operated upon at once under a local, gas-oxygen or spinal anesthesia. His liver glycogen content should be built up by the pre-operative administration of glucose fortified by a small dose of insulin. This treatment should be repeated every three or four hours for the first forty-eight hours after surgery. Only small doses of insulin should be given to prevent hypoglycemia. The blood sugar should be estimated twice daily. Leg amputations for diabetic gangrene under a low spinal anesthesia are very satisfactory.

### Hypertension

Hypertension is not a definite pathological entity but is an expression of changes taking place in the circulatory system. The nature of these changes is definitely known in acute and chronic nephritis and generalized arteriosclerosis with the accompanying albuminuria, casts, hypertrophied heart, etc. In essential hypertension we have a hypertension without any apparent kidney or arterial disease associated with it.

It is a generally accepted fact based upon the opinions of various investigators that there is present a more or less generalized arteriolar-sclerosis which is most marked in the kidneys, brain and spleen in essential hypertension. Some initial irritant or toxine is probably responsible for these arterial and arteriolar changes in both types of hypertension. We must bear in mind the fact that the hypertension produced by these lesions is compensatory in character. It is nature's provision to assure an adequate functional supply of blood and oxygen to those organs whose blood supply has been diminished by the decreased caliber of the sclerosed arteries and arterioles. It is essential that this compensatory hypertension should not be disturbed to any great degree

but should be maintained if possible. If this tension is reduced in a marked degree, an anemia and accompanying anoxemia of the organs involved will ensue. This is particularly true of the centers of respiration and circulation in the medulla. When these centers become markedly affected by anemia and anoxemia, a failure of respiration and circulation may occur. This anemia and anoxemia must be relieved within a short period of time or a fatality may follow. Gas-oxygen and infiltration anesthesia are the best anesthetic agents to maintain this tension.

### Intestinal Obstruction

The degree of hazard in intestinal obstruction cases depends upon the cause of the obstruction and the duration of its existence. If the patient is seen within a few hours after the onset of the obstruction, his condition is not so serious and he stands an anesthetic fairly well. If the obstruction is caused by a strangulated hernia the operation may be performed under a local, general or spinal anesthetic. If the obstruction has been present for a few days, the condition becomes extremely hazardous. These patients will have become dehydrated from vomiting, will have an acidosis and will show great depression. The dehydration and acidosis must be treated. A stomach lavage must be given and a Levine tube left in the stomach in order to drain off the reverse peristaltic fluid. The stomach must be emptied and kept empty if a general anesthetic is given, or the infectious stomach contents may be aspirated. Seriously sick patients should be operated upon under morphine with a local anesthetic, and, if required, nitrous oxide plus a high percentage of oxygen may be added. The earlier cases with a normal blood pressure may be advantageously operated under a spinal anesthetic, which assures excellent relaxation. The spinal anesthetic gives tone to the mus-

culature of the bowel and increases peristalsis, thus relieving the bowel distention. Spinal anesthesia should not be used in the presence of a perforation of the bowel, since the increased peristalsis will expel more intestinal content into the abdominal cavity.

### Prostatectomies

Almost all of the prostate cases which come to surgery are in old men. Their kidneys are usually damaged because of retention hydronephrosis and ascending infection. These patients should not receive ether. A local anesthetic should be used for the supra-pubic drainage. The prostatectomy or trans-urethral resection is satisfactorily done under a low spinal anesthesia. If the kidneys are not seriously damaged, avertin supplemented with gas-oxygen may be used.

### Summary

1. No one anesthetic agent can be used routinely.

2. Anesthetic agents used are ether, gas-oxygen, avertin, spinal and infiltration.

3. The anesthetic should be adapted to the individual, to the pathology and to the complications.

A. The behavior of the heart of a toxic thyroid while under an anesthetic is an important factor in determining the operability.

B. Hypertension is a compensatory provision and should be maintained as nearly as possible during surgery.

C. The safety of anesthesia for a diabetic depends upon the glycogen content and its maintenance in the liver and proper postoperative treatment.

### References

1. Andre Crotti: "Anesthesia in Goiter," *Current Researches in Anesthesia and Analgesia*, March and April, 1934.
2. Elliot P. Joslin: "Diabetic Patient and His Condition Preparatory to Anesthesia," *Recurrent Researches in Anesthesia and Analgesia*, January and February, 1929.



## PHYSIOLOGICAL POSTURAL DEFORMITIES IN CONTRAST TO PATHOLOGICAL POSTURAL DEFORMITIES\*

CARL E. BADGLEY, M.D.†

UNIVERSITY HOSPITAL, ANN ARBOR, MICHIGAN

A few years ago at the American Medical Association meeting in Minneapolis I was very much impressed by a paper by Sweet et al. presented before the Pediatrics Section, dealing with normal postural changes in the developing child. The authors demonstrated the bow-leg tendency of normal infants, the knock knee appearance of the two-year-old child and the lordotic spine associated with the pendulous abdomen of the three-year-old child as normal developmental deformities associated with alteration of function and position of the body in the transition from a helpless infant to the active independent ambulatory child. These observations agreed with my clinical experience and I felt they were sound.

In frequent crippled child clinics held in local communities, I have been impressed, after advising correction of a marked genu varum or valgum deformity, by the mother of the patient bringing forward an older child with straight legs saying, "Her legs were more crooked than this child's, but she outgrew it."

Quite commonly in our hospital clinics older children are brought in with a congenital deformity, such as a congenital dislocation of the hip, which should have been corrected earlier in life. They answer the query, "Why didn't you bring the child in earlier?" by the statement, "My home doctor said the child would outgrow the deformity." Undoubtedly the doctor's advice was based on his clinical experience and recognition of the value of that great physician, "Time." Experience teaches that there are deformities appearing in the growing child which disappear as growth continues. It is recognition of these deformities convertible by growth and time which has led the parents and doctors to false hope in correction of pathological deformities.

There is sufficient evidence to warrant acceptance of the development of physiological deformities, but are we well enough acquainted with these normal deformities to distinguish them from pathological deformities? It is essential that we are, as the pathological deformities tend to become more marked or do not respond as readily without treatment. It would be unnecessary

to treat a physiological deformity, whose only treatment need be the normal development of the child. I must confess I find myself inadequately prepared to discuss these physiological deformities from personal observation. My chief purpose in this paper is to learn from you in discussion how much is known about the physiological deformities, and to stress the importance of early recognition of the abnormal deformities.

My chief concern about the normal growing child naturally centers in his posture. In my clientele, both at the Henry Ford Hospital and the University Hospital, it is apparent that the framework of the child has not been examined by the parents or the doctor from the time that they were old enough to dress themselves. It is rare that we have a child referred to us by a doctor or parent for postural study. In larger districts, where routine school examinations are held by so-called orthopedic nurses, we have large groups of children referred with marked postural changes, and frequently with marked structural scolioses of many years duration, which the parents admit they had never noticed. It is time that competent examination of our young children for postural deficiencies be made routine in all our schools. Statistics of studies of large groups of school children in other countries shows a high frequency of scoliosis, varying from 10 to 26 per cent. Examination of entering freshmen at Yale and Harvard showed postural deformities of varying degrees in as high as 85 per cent of the students. In this latter group many of these had mild deformities, but a large percentage physically were unfit for army qualifications.

We should, of course, be thoroughly conversant with the normal or physiological

\*This paper was read before the section on Pediatrics, Michigan State Medical Society at Battle Creek, September 12 and 13, 1934.

†Dr. Badgley graduated from the University of Michigan in 1919. He is professor of surgery in charge of orthopedic surgery in the University Hospital.

postural deformities of children if they occur. From my observation these deformities are more apparent than real. The so-called bow legs of the infant are generally not an actual bowing of the bone as one can demonstrate by x-ray, which will show a perfectly formed tibia. It is due, rather, to the lack of development of the muscles of the leg, particularly the posterior group associated with the enlarged lower epiphysis, giving an apparent bowing. A simple test will readily differentiate this apparent bowing from a true deformity. If there is a true bowing of the legs when the knees are in extension with the internal malleoli of the ankles touching, there should be a space of varying degree between the condyles of the femora, dependent upon the extent of bowing. In these infants the condyles approximate each other in this test.

The genu valgum, which develops about two years of age or shortly after the child has become ambulatory, is an actual mild deformity most probably produced by the wide base used by the child in his uncertain gait. Here again a simple test measures the extent of the deformity. With the knees extended and the internal condyles approximated, the internal malleoli are separated to a greater or less extent, dependent upon the degree of knock knee. One or two inches separation may be regarded as a mild deformity. Usually this deformity disappears by the time the child is four years of age, but if it is associated with other postural deformities, particularly pronation of the feet, it may be persistent if left untreated. With my present limited knowledge of these physiological deformities, I find it hard to differentiate the genu valgum of this type from the pathological type.

The lordosis and pendulous abdomen of the three to four-year-old child is a compensatory effort to maintain balance in the upright position, and this deformity disappears normally as the child grows older and more adapted to the upright position.

It is quite probable that these deformities will be outgrown, or disappear as the child grows older. To a certain degree that is also true of some of the pathological deformities, but in general the latter will respond much more certainly and completely under treatment.

The more common postural deformities abnormal to the growing child should be

recognized early, for early treatment gives the more certain assurance of correction. I will briefly relate the more common of these deformities and outline their treatment.

Pronation of the feet, associated with the maintenance of a well-formed longitudinal arch, is quite commonly seen in the developing child. One may subdivide the pronated foot into three main types:

1. The congenital flaccid flat foot.
2. Contracted heel cord.
3. Accessory scaphoid.

The congenital flaccid flat foot is distinctly familial. This type of flat foot is erroneously termed, as generally the longitudinal arch is high or well preserved. It is an extremely weak foot which pronates so markedly on weight bearing that the foot resembles a marked flat foot. Ligamentous structures are so relaxed that more than normal excursion of motion of the articulations of the foot are possible. It is a limp or flaccid foot. This type of deformity appears as soon as the child starts weight bearing. It is easily recognizable. Corrective shoes do not prevent the deformity, because the counter of the shoe breaks down and does not hold the heel in a corrected position. For this type of foot we have found the Whitman steel foot plate, which grasps the os calcis, holding it inverted, the best means of preventing stretching of the ligaments until the child is old enough to develop the muscles of the foot and ankle. When exercises can be initiated we use the crooked or Thomas heel and use the Spitzzy method of strengthening the inverter muscles. This ingenious method consists of placing a marble or rubber ball just beneath the navicular tubercle and holding it in place by a strip of adhesive. The diameter of the ball is such that if the foot pronates it digs into the navicular, and consciously at first the patient contracts his inverters. Later he subconsciously maintains tonicity of this group of muscles and then the ball may be discontinued.

Many children from five years on develop an apparent flat foot, who have in reality a high arched foot, but due to a shortened heel cord, the foot cannot go beyond a right angle in dorsiflexion or in an inverted position, but it can if the foot pronates. They have the splay foot attitude of the flat foot as a result. This deformity is corrected by stretching exercises



for the heel cord, or, if resistant, by a tenotomy of the Achilles tendon. The crooked heel or the Whitman foot plate aids in the treatment.

The third type is generally seen about ten years of age. The attention of the parents is usually directed to what they call a second ankle bone. The tubercle of the navicular is extremely prominent and the foot, though the longitudinal arch is generally high, is markedly pronated. Kidner has called attention to this deformity produced by the development of a secondary navicular bone which is not attached to the main bone, but takes a large part of the force of the posterior tibial tendon which is attached to this free fragment from its normal pull on the medial part of the foot. In time this free bone tends to unite to the navicular proper, after which the foot deformity may be corrected, but operative fusion as advised by Kidner will more certainly cure this type of deformity.

There are many other types of deformities of the feet seen in children, but this group serves to illustrate a group of abnormal or pathological deformities which the child will not outgrow, but require treatment if a satisfactory functioning foot is to be obtained.

I have not time to discuss the abnormal or pathological deformities producing bow legs or knock knee, other than to say it is true that time and growth will tend to correct the deformities, but more certainly will correction be obtained by treatment, generally non-operative, but in the more severe cases by operative procedure.

The value of routine examination of the growing child's framework is to my mind excellently stressed by the early recognition of congenital dislocation of the hip in northern Italy. Putti states that congenital dislocation of the hip is so common in northern Italy that the mothers have learned to recognize this congenital deformity in six-months-old infants by the alterations of the normal skin folds about the hip. The importance in the end-result of early recognition and treatment of congenital dislocation of the hip cannot be stressed too much.

It is equally important that postural deformities of the back and shoulders be recognized early. A study of the incidence of postural defects in pre-school children at the Merrill-Palmer School demonstrates that

round back, winged scapulæ, lordosis and forward head appear in relatively few children at two years of age, but were present in children of four or five with a frequency of 34 to 48 per cent. From their studies it seems reasonable to assume that these faulty attitudes appear after the second year and increase in degree as the child grows older. These studies seem to contradict the optimism expressed by Sweet et al., that these deformities tend to disappear as the child grows. It is only recently that opportunity has been afforded to study statistically the posture of these pre-school children, so it is too early as yet to obtain information as to what happens to these same children past five years of age.

Previous statistical postural studies of school children in various countries demonstrate, however, a relatively high frequency of postural deformities. The independent observation to which I have already referred, of Cook and Brown of Yale and Harvard entering classes, showed around 85 per cent postural deformities. The higher incidence of postural deformities in this older group argues against the thesis that these deformities disappear with growth.

The importance of these postural deformities may be over-stressed, but the possibility of their leading to a more serious lesion must be considered. The previously mentioned studies of school children showed a high incidence of lateral curvature of the spine, varying from 10 to 26 per cent. Although scoliosis may be produced by a number of factors, about 85 per cent of the cases of scoliosis, according to Kleinberg, are idiopathic or of unknown origin. Although Lovett and others have expressed the opinion that postural deformities of the spine were not frequently the cause of the structural scoliosis, there is sufficient reason to feel that it is this group of children with the rounded backs or lordotic spines who may prove to be the pre-scoliotic. Certainly they have already demonstrated a tendency to *deform* and should be regarded as the potential group from which the 10 to 26 per cent of scoliotics will occur.

Investigation of the ultimate outcome of this group would prove of the greatest value in the treatment of scoliosis. I know of no statistical study to prove or disprove this theory. It is one well worth making.

The usual age at which we first see the

scoliotic for treatment is about 12 years. By that time there is generally a well marked structural deformity of the spine, which is most resistant to any attempts at correction. The keynote of the present form of treatment of structural scoliosis is based upon the principle of forcibly moulding the plastic, growing bones of the spine into a corrected position, after which exercises to strengthen the musculature to maintain correction are employed. Recently, the difficulty in maintaining correction once it has been obtained has been recognized and fusion operations of the spine have been performed with the child still in the corrective plaster. This procedure has been widely adopted as the accepted method in this country. We have used this method as intelligently as we knew how and are greatly disappointed so far with our after-results. It is true that many of our failures may be due to faulty technic, but they have not been satisfactory.

I feel that for centuries too much attention has been focused on the treatment of

the scoliotic, whereas our hope lies in the discovery of the prescoliotic and in devising methods to prevent his going on to scoliosis. How to do this I do not know, but if the same amount of time and study now expended on the treatment of the scoliotic could be turned to the study of our school children between the ages of five and ten, which is the formative period of the scoliotic, a great step forward in our knowledge of the etiology, and means of prevention of this deformity could be made.

In conclusion, I have attempted to stress in this paper the importance of recognizing a deviation from normal in the growing child's structural framework. Without certain assurance that such a deviation is physiological and correctible by growth, one should regard a deformity as abnormal, and early in its appearance attempt to correct it. The pathological deformities do not tend to correct themselves as the child grows, but rather may be the precursor of more serious difficulty.

## IMPORTANT INTEGRATIONS OF THE MEDICAL SCHOOL

JAMES E. DAVIS, A.M., M.D.†

DETROIT, MICHIGAN

Medical education concerns itself with creative measures to improve inheritances, prevent disease, alleviate suffering, and give guidance from sickness to health. It is a disciplinary training in the art and science used to maintain the human mind and body in a state of normal health and happiness.

There are three related parts in the assemblage of the present standard of medical education, as required by the Association of American Medical Colleges:

- I. The pre-medical studies.
- II. The undergraduate school.
- III. The hospital.

### I. The Pre-medical Studies

This preparatory work should not be regarded as an isolated problem of medical professional training, but as an integral part of the whole system of higher education. There are certain disadvantages to be considered in a program of study that centers too exclusively upon subjects closely allied to medicine. For example, deficiencies in

English may easily prove a greater handicap than deficiencies in preliminary scientific subjects.

The best training results from selection of fundamental subjects, and the student should not be permitted to make the mistake, as is so frequently done, of piling up quantity in credits at the expense of quality. A Bachelor's or Master's degree may not be as good an indication of probable success in the medical course as a fine, well balanced record covering but two years of college work. The data collected by Secretary Zapffe<sup>16</sup> from seventy-nine United States medical schools amply support this point. The late President Burton once said that college credits are often piled up like

†Dr. Davis received his M.D. degree from the Detroit College of Medicine and Surgery in 1896, and his A.M. degree in Pathology from the University of Michigan in 1915. He is Professor of Pathology at Wayne University College of Medicine, a member of the American Association of Pathologists and Bacteriologists, and a Fellow of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons.



so many sticks of wood—so long, wide and high for the cord of what proves to be soft wood.

The tremendous numerical increase of students in United States colleges naturally augments the number applying for entrance to medical schools. With a larger group of applicants, it follows that more discrimination in selection will obtain. The rejections reported in the *Association Journal* in January, 1934<sup>17</sup> reached 26.1 per cent of the total applications.

In 1933, there were fewer applicants with minimum entrance requirements of two years college work, but this group had the smallest percentage of encumbrances of all the groups, on the basis of college preparation. It is easy to conclude that the students with minimal requirements must have had high quality of work scores and were more strictly selected.

The largest percentage of clear records obtained in seventy-five schools was made by the A.B. group. The failures in this group reached only 8.0 per cent. The B.S. group ranked second, and the Ph.D.'s did not do so well. Zapffe, in giving the above figures, concludes that "the best preparation for the study of medicine is the pursuit of studies leading to the A.B. degree; more culture, less science."

Observations covering a period of more than thirty years have shown that at least 25 per cent of every entering class fails to graduate. Economically this represents a great loss to students and schools, much wasted effort, and time misspent.

In 1932, 7,357 applicants had been accepted and 4,923 refused by seventy-eight schools in the United States and Canada. By the end of the freshman year, 14 per cent of the entrants had been dropped.

Prevention of fatalities is most effective in two ways: first, as regards decisions to study medicine; and, second, in selection of those best fitted. The *Indiana State Medical Journal*<sup>17</sup> aptly put it this way: "A decision to study medicine should be held until a liberal arts degree is obtained. Then there should be but one legitimate reason for studying the art and science of medicine, and that is a burning desire to be of service to one's fellow man. If this desire, like Banquo's ghost, will not down or let the pilgrim sleep, or eat, or live in peace,

then, provided he has health, brains, and will, he may be considered one of the elect."

This challenge is being answered, for in 1932, 52.3 per cent of the students entering 79 medical schools held Bachelor's or other degrees, and only 16.5 per cent had less than three years pre-medical work.

The Bureau of Economics<sup>2</sup> of the American Medical Association is authority for the information that "approximately 1,000,000 persons from the ages of 17 to 24 are in attendance at institutions of higher education during four to six years." Of this group, between 0.8 and 1.36 per cent are applying for entrance to the study of medicine; and they are coming largely from metropolitan centers. In New York State, Pennsylvania and Illinois, the proportions were 21.5 per cent (of the total for all states), 9.7 per cent and 7.1 per cent, or nearly 38.3 per cent from three states. New York City supplied nearly all of the 21.5 per cent of applicants. This gives the suggestion that the larger cities are very likely to furnish most of the pre-medical students.

At Wayne University College of Medicine, in the classes of 1935, 1936, 1937, 1938, and 1939, a total of 412 students was registered and of this number 350, or 87 per cent, came from the city of Detroit and its suburbs.

The 1935-1936 catalog of this college states the entrance requirements, as follows: "At least three years of not less than 32 weeks each, aggregating not less than 90 semester hours of credit, earned in a college of arts and sciences which is on the approved list of the American Medical Association, or the credits of which are accepted at par by the state university of the state in which the student is a resident. These must include: physics, 8 semester hours; chemistry, 12 semester hours (including 4 hours of organic chemistry); French or German, 12 semester hours; zoology, 8 semester hours; English, 12 semester hours; and normal psychology, 3 semester hours."

"The remaining hours must be filled by electives of which physical chemistry, additional biology, additional English, Greek, and as much work as possible in social science, economics, and history are preferred."<sup>14</sup> The catalog also states that "every student registering in the College of

Medicine who is not a college graduate is required to apply for an academic degree, the same to be conferred by an approved college of arts and sciences, upon the satisfactory completion of the first year of work in the medical school or later in the medical course, at the discretion of the college conferring the degree."

The foregoing program for the first year in the medical school could be appropriately designated a trial or elective medical science course. All candidates for the medical degree who elected to do the full first year's work could be passed upon at its conclusion, providing that adequate credits had been acquired and that their fitness for medicine was satisfactory. The objection can be raised that unless this year is regarded as an opportunity for broad cultural science training, it will not serve the best interests of either the elected or rejected students. The point is well taken due to its psychic implications. *This year should be designated primarily as the terminal year in the arts and science course, and secondarily as the initial medical period.* A truer perspective of the medical course could thereby be obtained and a decision to discontinue medicine would not be stigmatized.

Some original data concerning decisions to study medicine have been gathered at Wayne University College of Medicine. Two questions were asked of 314 students: How did you become interested in the study of medicine? And, how long and how intently was your attention fixed upon a medical career before you began medical studies?

The answers to the first question summarize as follows:

- 5 gave no answer.
- 8 did not know.
- 19 were interested by parents and friends.
- 1 became interested through dentistry.
- 8 were influenced by medical literature.
- 21 attributed personal or family illness.
- 134 from personal contacts with physicians.
- 112 claimed their decisions were from personal choice.

Analysis of the above answers shows that environmental factors influenced 57.9 per cent and deliberate choice was made, without stated reasons, by 35.6 per cent. There were 5.4 per cent who had no reasons to give for their choice.

The groupings of the answers to the second question amplify the information given in response to question one, by stating the time taken, or period chosen, in which the

decision to study medicine was acted upon:

- 11 students took two to twelve months.
- 57 decided after two to five years deliberation.
- 57 considered the question during six to ten years.
- 7 stated they had been considering a medical career for eleven to fifteen years.
- 95 made their decisions after completing their high school work.
- 36 decided while in high school.
- 12 reached decisions when they were in literary college.
- 30 answered that they had always wanted to study medicine.
- 8 had no knowledge of any sustained desire for a medical career.

The above figures tend to show that 89.9 per cent of the group gave serious and sustained thought to their choice of medicine, while 9.1 per cent made a sudden or haphazard decision.

The percentage of scholastic failures in Canadian and United States medical colleges has remained stationary, at approximately 15 per cent of the total admissions. It is highly probable that the answers given above by Wayne University students point definitely to some of the reasons for these failures.

The question has been raised: Why have concern over failures when the "enrollment in colleges and universities has increased seven times in the period from 1890 to 1930, which is fifteen times as rapidly as the population increase during the same period."<sup>3</sup> The answer is readily at hand. It is pathological to have failures. It is just as natural and just as reasonable for students and their teachers to desire academic success, as it is for patient and physician to strive for curative success. In both instances, greatest stress must be put upon preventive efforts.

The medical profession is not the only group concerned with overcrowding. President Walters<sup>13</sup> of Cincinnati calls attention to the profession of law, which has one lawyer for every 762 persons, or 131 per 100,000 of population for the country as a whole. University and college teachers number one to every 14.5 students in the United States. At Oxford University, England, the ratio in 1928 was one to 16, and at Cambridge one to 15.6.

The engineering profession in 1930 had one engineer to every 425 persons, or 231 to 100,000 of population for the country as a whole.



The medical profession in 1932 had one physician for every 852 persons, or 116 for each 100,000 of population.<sup>1</sup> Professor Clark, in his book "Economic Theory and Correct Occupational Distribution," 1931, discusses the danger of limiting physicians, lawyers, engineers, dentists, and architects, and adds: "The plumbers, bricklayers, and carpenters know they are overcrowded."

Laborers are too numerous for available jobs. Farmers are too numerous, and they raise too much grain, too many hogs, and too much cotton. Yet withal, the poor continue to starve. The sick and suffering are unrelieved, and prevention of disease is not yet accomplished. If young men are to be kept from entering the medical profession, and other doors, according to reliable information, are also closed to them, where will they go?

## II. The Undergraduate Medical School

In the summary of the 1932 Report of the Commission on Medical Education, this appropriate comment is made: "The hope of presenting the entire subject of medicine satisfactorily in the usual course must be abandoned as an unnecessary and futile endeavor, because no individual can be expected to master all phases of medicine. Furthermore, many parts of the subject cannot be taught by the faculty; they must be learned by the student through actual experience. It is an axiom, that all true education is self-education. This immediately makes the student the unit of education, not the courses, the credit hours, or the faculty."<sup>4</sup>

The distinct shift in many medical schools is in the direction of individualizing instruction, discontinuance of the rigid class system and uniform time schedules. The trend is to use small teaching sections, personal contacts between students and instructors, provision for a reasonable amount of free reading time, individual work, and a reduction in the amount of lecturing. "These changes are in recognition of the fact that the crucial element is the individual student upon whose character, attitude, preparation, ability and industry so largely depends the result of medical training."

When one surveys the literature recently created, especially that by college presidents,<sup>12</sup> directors of bureaus,<sup>2</sup> deans of medical schools<sup>9,10</sup> and others,<sup>15</sup> there follows

an impression that medical school curricula must soon undergo radical changes and adjustments that are to be quite revolutionary. Wilbur<sup>15</sup> states that "the mechanics of school administration have been satisfactorily solved," but teaching cannot be carried out in the old way. "The medical curriculum is overloaded; there has been more engorgement than digestion. We must rid ourselves of the antique, the obsolete and the unimportant in our medical courses."

A good start may be made in this reform by going to the basic subjects—anatomy, physiology, biochemistry, bacteriology and pathology. It has been duly estimated that 50 per cent of the allotted hours in these subjects could be appropriately devoted to applied or clinical application work. At Wayne University, in the department of pathology, reduction has been made in the microscopic slides studied, and added attention is being given to gross changes, case histories, and practical discussions by the students and instructors concerning all phases of the subject represented, and including the anatomy, biochemistry and physiology. A liberal allotment of time is given to clinical pathology, commencing in the second year. Living material, which lends itself well for class inspection, is being used. The enthusiasm of students for the latter work is inspiring.

Certain correlations are being made with the radiology and internal medicine departments, by having guest instructors occupy a limited number of hours in the pathology schedule. The results of this experiment in division and correlation of instruction have been highly satisfactory.

Who would question the value of having a member of the department of anatomy attend autopsies and share some of the pathologist's time in giving an appropriate twenty to thirty minute talk and demonstration upon fresh, pliable, and undistorted tissues?

How appropriate it would be in the clinical study of a patient problem in functional pathology, to have the physiologist, pathologist and internist pool their interpretations before a student group; or in the interpretation and differentiation involved in mixed infections and toxemias, profitable discussions could be carried on by the bacteriol-

ogist, biochemist, pathologist, and internist or surgeon. This doubtless would result in both student listeners and instructional groups having to extend their respective horizons.

The objection will be made that this is too elastic a program and available time is lacking; but this objection has been overcome repeatedly where ideal instruction is approached or attained. Deliberate planning is required to make such work a brilliant success.

It is the general consensus of opinion in recent literature that the student should be constantly taught to rely upon himself and fully to realize that his prepared food days are over. He should be urged to search the literature and learn first hand the sources of written knowledge. Verbal instruction should point the way through discussions, preferably in small informal groups. Instructors should avoid displaying their personal knowledge and artistry and should find peculiar inspiration in developing both of these attainments in their students.

One of the greatest temptations that constantly besets the instructor, is to yield to the thought of saving time and patience by doing for the student what he can soon do for himself. A second problem of serious importance is the giving up of quantity in the study program for quality or mastery. It is doubtless true that a new graduate in medicine and surgery who has drilled himself in a few subjects will succeed more quickly and surely than will his fellow who has a wide smattering survey of all the curricular subjects. Two examples will suffice, e.g.: in medicine, mastery of the respiratory tract diseases would equip for most of the ailments going to the general practitioner; in surgery, a thoroughgoing knowledge of the abdomen would encompass 90 per cent of its usual problems.

In the field of medicine, there is an incomparable opportunity for the practice of pedagogical ideals on the part of the teacher and the practice of the art of learning on the part of the students. It is astonishing how little well planned and disciplined attention is given to these closely linked subjects. In a questionnaire answered by 314 medical students in Wayne University:

150 or 47.7 per cent had no technic for study when they began their medical course.

105 or 33.4 per cent had no system of association to aid the memory.

138 or 43.9 per cent admitted training the memory almost entirely by repetition.

79 or 25.1 per cent did not have any plan for reading assigned texts.

39 or 12.4 per cent had no method for concentration.

182 or 58.2 per cent stated they had not received any specific instruction on "how to study."

To the question, What are your best incentives for study?

138 or 43.9 per cent answered—interest in the subjects.

56 or 17.8 per cent replied—examinations or quizzes.

28 or 8.9 per cent gave credit to environment.

26 or 8.2 per cent only, were willing to credit their teachers as incentives.

A miscellaneous lot of answers credited necessity, curiosity, pride, reward, family devotion, and fear as their main stimuli for study.

To the question, Do you favor no final examinations?

148 or 47.1 per cent answered yes.

155 or 49.3 per cent favored final examinations.

11 or 3.5 per cent were indifferent.

28 or 8.9 per cent commented upon overemphasis of final examinations.

27 or 8.9 per cent preferred interval examinations.

To the question, Do you favor a coaching system of instruction?

234 or 74.5 per cent answered yes. This was the highest agreement reached upon any answer.

The question, Will you offer constructive suggestions of value in aiding your medical studies? called forth seven answers pertaining to examinations, four in regard to facilities, twenty-seven pertaining to student desires, eleven concerned teachers, and thirty-eight referred to teaching methods and courses.

There was no impressive agreement in the suggestions offered. The following include the majority of similar suggestions:

1. Substitute frequent quizzes and examinations for the final examination and reduce the significance of the final examination.

2. Provide better working facilities for the students by increasing available library hours, have more study rooms, and permit work in laboratories during spare time.

3. Reduce existing formality between professors and students. Continue and increase extra-curricular programs. Correct late arrivals and absences of lecturers.

4. Reduce the student's clerical work. Have better organization of the courses given. Provide more illustrative materials. Increase the quality and organization of lectures given. Give greater



emphasis to important details and practical applications (this is the most frequently given suggestion). Do not show clinic patients who must be kept covered with a blanket.

### III. The Hospital

As an integer in the undergraduate medical educational program, the hospital is a humanized public service laboratory where patient and physician meet for one ultimate practical purpose, which is relief from suffering and restoration of health.

The student enters upon this phase of his training with a storage of subconscious values and a conscious equipment of knowledge, yet undisciplined and very incompletely organized. He is self-conscious and has not reached a degree of certainty as to "which" comes before "which." When the test of application arrives, there is confusion to be dispelled. All of the fifteen or more modal senses have conveyed afferent impulses to the cerebral association centers through four years of fact finding exercises, but each of these impulses has not completed the reflex arc in efferent reactions.

Much of the fundamental basic knowledge contacted in the pre-clinical years has become disseminated, because clinical associations in anatomy, physiology, biochemistry, bacteriology, psychology and pathology were inadequate.

The clinical teacher is necessarily burdened not only with disciplining the student in the art of medicine, but with a tedious review of fundamental scientific facts. He becomes a coach who must have genius for organization and practical application. He must review with the student dimmed and poorly mastered facts, placing them in proper order of importance and sequence, when the patient's symptoms are elicited and interpreted.

The intern's time schedule should not be so completely occupied in the hospital that no time is left for reference reading. Text-book and standard journal literature should be very frequently and freely consulted while case problems are at hand.

Appreciation of the reaches of hospital activities and their significance in relation to educational facilities during internships and staff appointment periods, may be increased by referring to certain numerical evidence. The Commission on Medical Education<sup>5</sup> has reported upon 6,719 hos-

pitals of from ten to over three hundred beds, with a total bed capacity of 955,869 (as of March 28, 1931), and with a patient population of 283,019,540. In the same year (1931), 6,457 students were admitted to class A schools, and from this number approximately 23 per cent, or 1,483, were deducted for failures, deaths, etc. This leaves 4,974 as an available total of those who might remain in hospitals after graduation, or less than one student per hospital. Of course, this is not the actual status, because not all students seek or are compelled to serve an internship; and many hospitals have interns for more than one year. A considerable number of the small hospitals cannot qualify for class A college internships.

It is tentatively estimated by Rypins<sup>11</sup> that, in the future, 33 $\frac{1}{3}$  per cent fewer students will be admitted to medical schools. This will reduce the total, as given above, to 3,316.

In 1932, the total number of Federal, state, and all other hospitals<sup>8</sup> was given as 6,613, and the bed capacity as 974,115. Apportioning this number to the estimated number of graduates, the proportion becomes one intern for 293 beds, or an inadequate supply of hospital doctors. In the period 1928 to 1931, hospital bed capacity increased 81,181; and from 1929 to 1931, the total patient days increased 17,759,950. In this same period, 1929-31, nervous and mental patient days increased 11,581,720.

In 1931, the total hospital bed capacity was 451,245 for nervous and mental diseases, or 46.3 per cent of the total 974,115 beds for all types of diseases. Here is a field with a dire need for more doctors.

Table 15<sup>6</sup> of the Commission on Medical Education (1931) lists 2,346 physicians serving as superintendents, 7,054 as interns, 4,580 as resident physicians, and 102,383 as staff members, making a grand total of 116,363.

Table 16 of this same Commission gives the approximate average annual expenditures for medical care as totaling \$3,225,-000,000.00.

The foregoing statistical data set forth impressively the significance of the hospital in medical education.

The efficiency of the undergraduate school and its affiliated hospitals should reach comparable standards. Hospitals giving

undergraduate student instruction, should be prepared to take full responsibility of continuation teaching duties at the level of the standards of the Council on Medical Education, and of Hospitals, of the American Medical Association. This responsibility is not so easily fulfilled. Clerical help in hospitals is not likely to show much enthusiasm over requirements demanding some of their time and the disturbing of their files. The teaching staff members, especially those who receive no remuneration, are not without good excuse if they are sometimes late or absent from their class or section. There can be no good reason advanced as to why all clinical teachers should not be paid. Efficiency of instruction would follow, if even a minimum hourly remuneration were provided.

### Summary

1. Medical education is defined and divided into three related parts: the pre-medical school, the undergraduate school, and the hospital.

2. A foundation of broad culture serves best for medical studies and post graduate attainments. Pre-medical studies, as such, should therefore not be encouraged, for they are not as valuable to a medical career as the subjects usually included in the A.B. course.

3. Students who are equipped to enter class A medical schools now come from a group of 1,000,000 possessing a college or university training. In 1932, the applicants for entrance to 78 schools of the United States and Canada numbered 12,280. Of this number, 4,923 were refused; and by the end of the first year, 14 per cent of entrants failed to reach the required standards.

4. Prevention of many student failures can be accomplished by better care in personal selection, better medical pedagogical methods, and an arrangement by which the first year will complete the arts or science studies, without obligation to carry on in medicine. It should be considered a pathfinder's year.

5. Metropolitan centers are supplying the largest number of medical students. Wayne University College of Medicine had 87 per cent from Detroit and environs. New York City supplied nearly 21.5 per cent of all the applicants for medicine in all states.

6. The character of the student's decision to study medicine may determine his success. The average of 15 per cent failures in all schools should be reduced by preventive means. Of Wayne University Medical College students, 9.1 per cent could state no reasons why they selected medicine, nor how long they took to make their decisions.

7. Very many of the curricular details and a number of major features of medical education should be eliminated or changed, so as to enable students to comprehend to the point of mastery more of the fundamentals of medicine. Correlation of the first year's subjects with the clinical work is greatly needed to economize both the student's and the instructor's time. Quality of work should have preference over quantity effort.

8. Of students at Wayne University Medical College 33.4 per cent had no system of association to aid in memory effort; 43.9 per cent trained the memory almost entirely by repetition; and 25.1 per cent had no plan for reading assigned texts. Inquiry reveals the above findings are duplicated in many other schools.

9. Of 314 students 58.2 per cent stated they had never had any specific instructions on "how to study."

10. A general survey of the teaching program in didactic, laboratory, and clinical work, as carried on in each department, has been made by the student council in some of our best medical schools through successive years. These reports have been graciously received and considered by the college executive councils. This practice tends to improve relations between faculty and student groups.

11. A pertinent group of suggestions are reported from the students of Wayne University College of Medicine. A coaching system of instruction was preferred by 74.5 per cent of the 314 answering a questionnaire.

12. The hospital is the place where the student integrates and organizes his five years' work, by application according to the requirements of the art and science he has learned, and at the level of efficiency required by his instructors.

13. The intern's duties in many hospitals should be so arranged as to provide more reference reading, closer study of patient problems and better case records.



14. Statistically and actually, the pro-rata of interns to patients in the United States hospitals is one intern for 293 beds. Hospital bed capacity is increasing much faster than are medical graduates. The total hospital bed capacity for nervous and mental patients is 451,245. There is a dire need in this type of hospital, as well as in tuberculosis hospitals, for more physicians than can be graduated in several years.

15. The efficiency of undergraduate medical schools and teaching hospitals should reach comparable standards.

### Bibliography

1. Bauer, W. W. (Director Public Instruction, American Medical Association): *The Diplomat*, page 83, (March) 1935.
2. Bureau of Economics Report: *Amer. Med. Assoc. Bulletin*, page 66, (May) 1935.
3. Commission on Medical Education: *Final Report*, page 264.

4. Commission on Medical Education: *Final Report*. (630 W. 168th Street) page 304, 1932.
5. Commission on Medical Education: *Final Report*, Appendix, Table 6, 1932.
6. Commission on Medical Education: *Final Report*, Appendix, 1932.
7. Editorial: *Indiana State Med. Jour.*, (February) 1933.
8. Hospital Census: *Jour. Amer. Med. Assoc.*, (June 11) 1932.
9. Ladd, W. S. (Associate Dean, Cornell University Medical School): *The Diplomat*, page 39, (February) 1935.
10. Lyon, E. P. (Dean, University of Minnesota Medical School): *The Diplomat*, page 84, (March) 1935.
11. Rypins: *Proceedings Annual Congress on Medical Education, Hospitals and Licensure*, 1935, American Medical Association.
12. Sproul, R. G. (President, University of California): *The Diplomat*, page 77, (March) 1935.
13. Walters: *Proceedings Annual Congress on Medical Education, Hospitals and Licensure*, page 3, (February) 1935.
14. Wayne University Catalog, 1935-36.
15. Wilbur, R. Lyman (Chairman, Council on Medical Education): *Proceedings Annual Congress on Medical Education*, (February) 1934, American Medical Association.
16. Zapffe, F. C.: Study of accomplishment in seventy-nine medical schools of the United States. *Jour. Assoc. Amer. Med. Coll.*, page 332, (November) 1933.
17. Zapffe, F. C.: Secretary's Report. *Jour. Asso. Amer. Med. Coll.*, 9:38, (January) 1934.
18. Zapffe, F. C.: *Jour. Assoc. Amer. Med. Coll.*, 10:21, (January) 1935.

### HEMATURIA\*

WILLIAM J. BUTLER, M.D., F.A.C.S.†

GRAND RAPIDS, MICHIGAN

The effects of the neglect of hematuria are devastating. This can be demonstrated by the case records of any urologist and by reference to the many statistical studies available. The problem is intimately related to that of cancer control, since nearly 50 per cent of people so afflicted harbor a neoplasm somewhere in the genito-urinary tract. This applies with especial emphasis after the age of fifty and particularly in the male.

Offhand one would say that surely all physicians in the year 1934 understand the significance and gravity of hematuria. Perhaps so. Experience, however, fails to confirm this idea. There is invariably a period of lag between the discovery of facts and ideas and their common utilization. The significance of hematuria is accepted by the profession theoretically but not practically. What are the facts? Kretschmer<sup>4</sup> in a large series of cases found that the average length of time between the first attack of hematuria and the urological study was two and one-third years and the bladder carcinoma registry<sup>3</sup> reports fifty per cent of carcinoma of the bladder undiagnosed at the end of one year.

A patient was recently seen whose periods of hematuria dated back twelve years. At first the free interval was two years and

in the last five years about one year. For two or three months it had been constantly present and accompanied now by frequency, nocturia and dysuria. During each attack he went to his physician for "hemostatic" medicine. He had multiple papillomas of the bladder which had undergone malignant degeneration. On rectal examination a dense subtrigonal infiltration was noted and the case was obviously inoperable. He lived about five months. Such cases are a travesty on the practice of medicine, of course, and an extreme instance of neglect; nevertheless, the time element is of great importance. A period of from six months to a year all too frequently means the difference between failure and cure. The death cited must be classed as preventable. The facts are that hematuria, unless very profuse and persistent or accompanied by severe bladder symptoms, is commonly neglected even today.

\*Read before the Combined Sections of the Michigan State Medical Society, Battle Creek, Michigan, September 13, 1934.

†Dr. Butler is a graduate of the University of Chicago, 1915, and Rush Medical College, 1917. He served his internship at Cook County Hospital, Chicago, 1917-19, and did post-graduate work at the University Hospital, Ann Arbor, 1924-25. He is consulting and attending urologist, Blodgett Memorial Hospital; senior attending surgeon, St. Mary's Hospital; member, American Urological Association.

In the majority of cases, medicine has been given to stop the bleeding, although, as far as I know, there is no drug that will stop the hemorrhage. The drug most frequently used is methenamine, but paradoxically it is far more likely to cause hematuria than to cure it. Of course, the bleeding often does stop following medication but it also stops without it. It is usually intermittent and the reasoning here is on a par with many other fallacious therapeutic deductions.

Chute found in a series of 200 cases that 75 per cent of bladder hematurias were due to tumors either malignant or potentially so, and in his whole series 44 per cent had malignancies somewhere. Even if the bleeding is due to stone, infection, or tuberculosis, while procrastination can be tolerated here with less serious results, threat to the integrity of the kidney or bladder and even loss of life may be involved. It is clearly the physician's duty, however, to insist on a complete urological study at the first appearance of blood in the urine instead of waiting for a recurrence.

There is a current notion about hematuria that is in urgent need of correction, namely, that the bleeding should stop or be stopped and then a diagnosis established. The urologist prefers to see the patient when he is bleeding. In the absence of fever or severe bladder symptoms, cystoscopy is carried out at once. The source of the hematuria is established immediately and the detective work is well on its way. If, for instance, a bloody jet of urine is seen coming from one ureteral orifice our diagnostic efforts are centered on this particular kidney. After the bleeding has ceased the problem is much more difficult.

### Causes of Hematuria

Within the past ten years five large statistical studies of hematuria have been made, namely, those of MacKenzie,<sup>7</sup> Kretschmer, Lower,<sup>6</sup> VanDuzen,<sup>9</sup> and Debenham.<sup>1</sup> The number of cases tabulated varied from about 500 to 900. The causes are generally grouped under three headings: (1) diseases of the genito-urinary tract, (2) systemic diseases, and (3) diseases of adjacent organs involving the genito-urinary tract. The first group is by far the most important and comprises the great majority of the cases. The second and third

groups include a very small minority and are rarely seen but must be remembered.

During the first two decades the cases are quite infrequent. Under forty, infections, including tuberculosis and stone, are the commonest causes in both sexes. After forty in the male and after fifty in the female, neoplasm becomes the commonest cause. Beyond fifty, prostatic enlargements, both benign and carcinomatous, are common causes in the male.

The male sex is afflicted more often than the female in the ratio of more than two to one. In the combined series of Kretschmer and Debenham there were 1,110 males to 473 females. The difference is largely due to the greater number of bladder tumors in the male and also to the many cases of hematuria incidental to prostatic hypertrophy. According to Debenham, if hematuria is the presenting symptom in the male there is almost a 50 per cent chance that it is due to a neoplasm, and if the only symptom, the chances are two to one.

### Renal and Ureteral Hematuria

The chief causes are infection, stone, tuberculosis, tumor, and trauma. Microscopic hematuria is common in the infections and in nephritis. The combined figures of MacKenzie, Kretschmer, and Walther give 40 per cent for the upper urinary tract and 60 per cent for the lower urinary tract. According to Herman,<sup>2</sup> pyelitis, stone, and tuberculosis account for two-thirds of all the cases. The incidence of hematuria in these diseases is relatively low in relation to the total number of cases but they are common conditions as compared to tumor and trauma, which show an incidence of 80 per cent to 90 per cent of hematuria. The following tables give some idea of the relative frequency of the different causes of renal hematuria.

Kretschmer (843)		MacKenzie (821)	
Tuberculosis .....	80	Infection .....	132
Infection .....	75	Tuberculosis .....	88
Stone .....	71	Stone .....	64
Tumor .....	37	Nephritis .....	23
Hydronephrosis ....	12	Tumor .....	12
Polycystic kidney....	7	Trauma .....	11
Scattered .....	19	Polycystic kidney...	3
		Scattered .....	11

The figures of Herman giving the relation of the occurrence of hematuria to the primary cause are interesting and are partially quoted:



Acute hemorrhagic nephritis.....	100%
Trauma .....	90%
Papilloma .....	69%
Renal calculus (children).....	57%
Carcinoma of kidney.....	56%
Ureteral calculus (microscopic).....	49%
Hypernephroma .....	44%
Renal calculus (adults).....	40%
Polycystic disease.....	40%
Tuberculosis .....	32%
Pyelitis (½ microscopic).....	25%
Hydronephrosis .....	3%

In both series the predominant cause of ureteral hematuria was stone, although it was occasionally caused by stricture or tumor.

### Vesical Hematuria

Carcinoma and papilloma outnumber all other causes, followed by stone, cystitis, trauma, elusive ulcer, and diverticulum. Hematuria due to prostatic hypertrophy might well be included here but is usually tabulated separately. The matter of bladder tumors will be discussed later but the following table testifies to their importance.

#### Kretschmer (843)

Carcinoma .....	163
Papilloma .....	72
Stone .....	31
Tuberculosis .....	14
Cystitis .....	6
Elusive ulcer .....	5
Diverticulum .....	4
Scattered .....	12

### Prostatic and Ureteral Hematuria

Prostatic hematuria was due to hypertrophy or carcinoma in 175 out of 236 cases in the combined series of Kretschmer and MacKenzie, being by far the outstanding cause. The remainder of the cases were due to acute and chronic inflammatory conditions and stone chiefly. Urethral hematuria is quite infrequent and is caused by acute and chronic inflammatory conditions, trauma, stricture, caruncle, and foreign bodies.

### Concomitant Lesions

Many cases of the simultaneous occurrence of stone and tuberculosis and stone and carcinoma in the same kidney have been reported. Carcinoma of the bladder is fairly commonly seen along with prostatic hypertrophy and this may cause some confusion and delay in the diagnosis. A case was recently seen of carcinoma and tuberculosis in the same kidney. This combination is extremely rare. Rupel<sup>8</sup> recently reported a case and reviewed the literature, collecting only six other cases.

### Essential Hematuria

A small number of cases remain unexplained after complete investigation. These are usually called cases of essential hematuria. This designation is objectionable and probably unexplained hematuria would be better. Some use the term renal epistaxis. There is undoubtedly always a cause, though not a grossly demonstrable one. Such factors as non-opaque calculi, lesions of the renal papillae, nephritis, and stricture of the ureter (Hunner) are probably operative. In Debenham's cases, 8 per cent later passed stones and 67 per cent had no further hematuria. Slight recurrence of the bleeding was reported in 16 per cent, but they were clinically well and 8 per cent had died of other diseases. Bumpus traced 155 cases five to twenty years and only six reported the future occurrence of renal disease. The prognosis, then, is apparently excellent. No therapy is necessary beyond the occasional treatment of the renal pelvis with one to two per cent silver nitrate. Rarely is the bleeding so severe as to require exploration and nephrectomy.

### Lesions in Adjacent Organs

*Appendix.* Hematuria may occur by contiguity, lymphatic extension, or due to an acute glomerulonephritis. Much has been written on this topic and probably its importance has been exaggerated. Acute appendicitis is rarely mistakenly diagnosed as a renal or ureteral lesion, but perhaps one-third of the patients with painful ureteral and renal diseases, especially stone, have had a needless appendectomy. Today with the common use of intravenous urography this situation should be corrected.

*Pelvic organs and bowel.* Acute pelvic infections, diverticulitis, and malignancies of the cervix and sigmoid may involve the bladder and give rise to hematuria. These involvements are extremely infrequent.

### Systemic Diseases

Hematuria due to systemic disease is quite uncommon but should be kept in mind in order to avoid useless urological investigations. Locke and Minot<sup>9</sup> have written an excellent article on this subject. Among the diseases they list are purpura hemorrhagica, symptomatic purpura, hemophilia, polycythemia vera, scurvy, infectious diseases, and conditions arising from toxic agents. The latter include bacterial toxins,

bichloride of mercury, turpentine, and cantharides. Among the drugs are mentioned methenamine, phosphorus, quinine, and the coal tar products. Methenamine is the most important, and although rarely causing hematuria can do so after quite small doses. A woman of twenty-four was recently seen who had been taking a commercial preparation for two months whose main ingredient is methenamine. During this entire period she had had hematuria and intense vesical distress amounting almost to incontinence. The condition cleared up immediately after stopping the medication. The hematuria is supposed to be usually vesical.

### Investigation of Hematuria

(1) *History.* As always, this is of considerable importance, particularly in relation to the associated symptoms of lumbar pain, renal colic, vesical frequency and distress, and slow small stream. Before the advent of the modern diagnostic methods, there were elaborate tables for diagnosis on the basis of symptomatology but today this comes strictly under the head of amusement. Still the history may give the clue to a hematuria due to systemic disease. The appearance of blood at the meatus suggests a urethral origin and terminal hematuria a vesical origin. If the blood is evenly mixed in the urine either a renal or vesical lesion may be present.

(2) *Examination of the Urine.* The presence or absence of clots is noted. If they are wormlike, moulding by the ureter is probable. Blood in the urine, of course, accounts for albuminuria, whereas pyuria does not. The sediment should be examined carefully microscopically for an associated pyuria and also stained for bacterial examination. The two or three glass test is often helpful.

(3) *Intravenous Urography.* This has been of tremendous assistance since much information may be gained with no distress to the patient. A start may be made, at least, in many cases when the patient or his physician objects to cystoscopy. It is especially helpful in stone cases and acute infections where cystoscopy may be undesirable. Sufficient detail is not always obtained for the exact diagnosis of early tuberculosis and tumor but usually enough is seen to ascertain which kidney needs further checking with retrograde pyelography. In

a series of several hundred cases we have never had a serious reaction and the percentage of acceptable films has been greatly increased by planning a longer period of dehydration. We stop fluids at bedtime and do not allow any food in the morning and carry out the procedure at eight or nine A. M. A totally unsatisfactory picture is a very infrequent occurrence but, of course, considerable experience has been gained in checking them with retrograde pyelograms on the same patient. In the case of trauma, where cystoscopy is always undesirable, it is a very valuable help and I will show two films illustrating this.

(4) *Cystoscopy and Pyelography.* Intravenous urography has not replaced ureteral catheterization and retrograde pyelography. The latter is still of inestimable value in checking dubious excretion pyelograms and must be frequently resorted to. Much of the curse of the so-called pyelogram reaction has been obviated by the use of catheters small enough to permit excess solution to run down the ureter to the bladder and by a substitution of newer media for the old standard sodium iodide. The drugs developed for intravenous urography are much less irritating to the renal pelvis and give excellent pyelograms. Cystoscopy is indispensable for the detection of lesions of the bladder and prostate.

### Carcinoma of the Bladder

This disease is the curse of the patient with hematuria, representing certainly one half of the cases beyond fifty. The American Urological Association has authorized and supported a registry of these cases in the past few years and a comprehensive report was published in the *Journal of Urology* for April, 1934. As one would expect, there was a preponderance of males in the proportion of 3:1 in the 902 cases tabulated. Hematuria occurred in 826 cases. It was intermittent in 704 and constant in 122. That the majority have intermittent bleeding is perhaps unfortunate and I suspect that the constant bleeders were diagnosed earlier, although no figures are given on this phase of the situation. Hematuria was the initial symptom in about 70% of the cases that had bleeding, testifying to its extreme importance in the early diagnosis of this disease.

The interval between the initial hematuria and the establishment of the diagnosis is of



extraordinary interest and was as follows:

0 to 1 month.....69	1 to 2 years...145
5 weeks to 3 months.....75	3 to 4 years... 47
3½ months to 5 months....37	5 to 6 years... 18
5½ months to 8 months....65	7 plus years... 26
8½ months to 11 months....26	

It will be seen that over 46 per cent remained undiagnosed at the end of one year in spite of their hematuria. The percentage of cases diagnosed at various intervals after the first appearance of any of the symptoms, including hematuria, were as follows:

End of 1 month.....10.8%
End of 5½ months.....32.13%
End of one year.....51.7%

The fact that at the end of one year 48.3 per cent of the cases are still undiagnosed speaks for itself. The objective of all crusades against cancer has been early diagnosis but it has not been achieved with respect to cancer of the bladder.

That early diagnosis is fundamental to good results is shown by the figures on the number of cases alive at the end of five years classified as to size. 51.3 per cent of the small tumor cases were alive after five years; 40.3 per cent of the medium; and 24.5 per cent of the large. Plainly the larger the tumor is at the time of diagnosis, the poorer the prognosis. Apropos of this, Hugh Young<sup>10</sup> quotes Casper to the effect that the latter cystoscoped 142 cases of bladder tumor immediately after the first hematuria and that all but three were small tumors. The bladder cancer registry group showed that 45 per cent were classified as large (over 5 cm. in diameter) at the first observation, the complete figures being as follows:

Small (0 to 1.9 cm.).....117	12.9%
Medium (2 to 4.9 cm.).....320	35.5%
Large (5.0 plus).....409	45.3%
Not stated..... 56	6.2%

The prognosis is also influenced by the grade of the malignancy but the influence of size is, indeed, apparent.

The figures quoted show clearly that there is need for improvement in the early diagnosis of bladder tumors, which in turn means more serious consideration of and a more aggressive attitude toward the patient with hematuria. Immediate investigation at the first appearance of bloody urine will yield large dividends in correcting the present deplorable results of the treatment of cancer of the bladder.

### Conclusions

(1) All cases of hematuria should be investigated at once. This is especially true after the age of fifty, since more than 50 per cent of the patients will be found to have a neoplasm.

(2) The cases should be studied preferably during the period of bleeding.

(3) If the coöperation of all members of the profession could be obtained a startling improvement in the treatment of genito-urinary cancer would be immediately evident and numerous needless tragedies would be prevented.

### Bibliography

1. Debenham: Brit. Jour. Surg., 21:44-62, (July) 1933.
2. Herman: Jour. A. M. A., 83:1315-27, (Oct. 25) 1924.
3. Journal of Urology: 31:423-72, (April) 1934.
4. Kretschmer: S. G. and O., 40:683-86, (May) 1925.
5. Locke and Minot: Jour. A. M. A., 83:1311-15, (Oct. 15) 1924.
6. Lower: S. G. and O., 38:360-62.
7. MacKenzie: S. G. and O., 39:155-56, (August) 1924.
8. Rupel: Jour. Urology, 31:57-58, (January) 1934.
9. VanDuzen: Texas State M. J., 23:577-80, (January) 1928.
10. Young's Practice of Urology.

## PUERPERAL SEPSIS\*

LAURENCE A. CHROUCH, M.D., F.A.C.S.†

DETROIT, MICHIGAN

With your indulgence I would like to present two cases of puerperal sepsis for your consideration. One patient recovered, the other died.

The first was a private case: Mrs. J. C., aged thirty-two, para vi, gravida viii, entered the hospital on December 15, complaining of vaginal bleeding; also pain and swelling of the entire left lower limb. She admitted having used a slippery elm stick about three and a half weeks previously to terminate an eight weeks pregnancy. On December 11 she passed a fetus and some placental tissue. The next day she was curetted in her home. Within 24 hours she became quite feverish and vomited. Within 48 hours she began to have acute pains in the left foot and leg. Within 72 hours she was admitted to the hospital.

The past history was negative, with the exception of one previous uncomplicated abortion but no history of illegal induction could be obtained.

The examination revealed a well nourished Italian woman of stated age, acutely ill, lying restlessly in bed complaining of severe pain in the left leg. She was somewhat stuporous. The skin was hot, moist, pallid and herpes covered the entire upper lip. While the breathing was shallow the lungs were clear. The heart was not enlarged and there were no murmurs. The abdomen was flaccid; no viscera nor masses were palpated. There was neither tenderness nor rigidity. The left leg was slightly swollen and very tender from the knee down.

The pelvis was examined through the rectum. The cervix was slightly boggy and pointed forwards. There was marked perimetrial tenderness. No masses were present in either adnexal area. The culdesac was empty.

The blood count showed 60 per cent hemoglobin; 3,260,000 R.B.C., with 8,900 white blood count. There were 78 per cent polymorphonuclears and 22 per cent lymphocytes. The urine was essentially negative except for numerous W. B. C.

A diagnosis was made of post-abortive endometritis, metritis, and perimetritis; also phlebitis of the left leg.

Supportive treatment was started.

The blood culture proved positive for hemolytic streptococci.

Her temperature reached 104.4 on her second hospital day.

Her improvement was gradual and steady. By the eleventh hospital day all abdominal distention was gone. The phlebitis localized and drained. The temperature curve flattened out to normal and the patient was discharged on the forty-fifth day.

The second was a staff case, not on my service: Miss N. M., aged thirty-four, who was admitted on March 15, complaining of flowing, fever, weakness and cough. She stated that having found herself two months pregnant she sought an abortion. This was said to have been done by a nurse, who injected water into the uterus on March 9. Two days later she passed what she thought was a fetus. This was followed by profuse, intermittent bleeding. On March 15, six days from the induction, she called a physician, who sent her into the hospital.

Her past history is irrelevant.

Examination revealed a white, anemic female with hot, rather dry skin. She was bleeding moderately. Her temperature on admission was 99; pulse 120; and respirations 20. Within 2 hours, however, the

temperature had reached 104. The abdomen was not distended and not tender. The fundus was easily palpated midway between the umbilicus and the symphysis. The lochia had a saprophytic odor. Pelvic examination was not done on admission.

A diagnosis of septic abortion, incomplete, was made.

Supportive treatment was instituted preparatory to a D. and C., which was done on the 16th. A blood transfusion was done on the 21st. Her urinalysis was negative.

Her admission blood count was as follows: 42 per cent Hgb. 2,340,000 R.B.C. 10,600 W.B.C. 71 per cent polymorphonuclears and 26 per cent lymphocytes.

She expired on March 21, 1934.

The method of treating these cases will be referred to later.

In presenting these cases and this subject we know we are offering nothing new. We feel, however, that this is a matter that can stand a great deal of ventilation. In combating this condition science has traveled all too short a distance on the road. As late as the middle of the last century there was a mortality rate of 50 per cent prevalent in epidemics of puerperal sepsis. And in lying-in institutions, an average mortality rate of 15 per cent solely from this cause was not uncommon. Then came Holmes, Semmelweis and Lord Lister. After applying the teachings of Lister, the mortality rate was gradually lowered. During the last decade of the last century it had reached the figure of three per thousand. During the first decade of this century it was two per thousand. By 1910 there was a slight improvement downwards to one and one-half per thousand. Reluctant though we might be to admit the present facts, nevertheless, there has been no further progress made. We stand where we did in 1910. To our credit we can at least say the occurrence of epidemics of this grave condition is now comparatively rare.

In 1927 there was a virulent outbreak in Sloane's Hospital. In 1933 a small epidemic was experienced in a hospital in Saint Paul. Thomas of Glasgow in 1933 under-

\*Read before the Detroit Obstetrical and Gynecological Society.

†Laurence A. Chrouch, M.D., graduated from the Medical College of Wayne University in 1923. He specializes in Gynecology and Obstetrics. He is Surgeon to Out Patients at Harper Hospital and Associate Surgeon at Florence Crittenton Hospital, Detroit, Michigan.



took a study of eight hundred cases of puerperal sepsis from the sepsis wards of the Belvidere Hospital. An accumulating group of facts from these and other outbreaks reveals that under the following conditions fatality rates were slightly higher:

1. In primiparæ;
2. With previous puerperal sepsis;
3. Cases attended by doctors (as compared with licensed European midwives);
4. Instrumentation; and
5. Precipitate labor.

Under abnormalities of the third stage, a large majority of fatalities followed normally expelled complete placenta.

With unusually long labor, trauma or weakened resistance from hemorrhage the incidence of recurrence was greater.

You are all familiar with the lines of inquiry usually pursued in studying this condition up until recently, namely:

1. The cultivations of the organisms from the cervix;
2. The cultivations of organisms from the blood;
3. The examination of material from secondary suppurative processes during life or post mortem; and
4. Tests for cutaneous sensitiveness.

In recent epidemics, tests from hands and throats of all attendants were made and, on all who were found positive for hemolytic streptococci, weekly tests were made while the individuals were routinely treated with nose and throat antiseptics.

At the present time dissatisfaction with our present methods of inquiry is apparent. There is a disposition to go back to the bacteriological laboratory and begin more than ever with the offending organism itself.

By doing so we may at least improve our point of view regarding the offending organism. The streptococcus is almost omnipresent. It is almost constantly present in milk. *Streptococcus lactis* with its allies is the organism held responsible for naturally fermented milk. Two pathological outbreaks of food poisoning were assumed by Linden to be due to a streptococcus. The feces of practically all animals and fowls—even the bees—are known to be loaded with streptococci, frequently hemolytic in type. Streptococci in human feces frequently outnumber colon bacilli. If certain varieties of

streptococci are in excess in swimming pools they may be taken as indicating recent sewage pollution. On household and restaurant knives, forks, spoons, glasses, butter plates, et cetera, the hemolytic streptococcus is usually present. Usually the streptococci found in the upper air passages and intestines of healthy humans give no evidence of disease. Yet it has been demonstrated that, given the opportunity, they can assume virulent properties. This was demonstrated during the world war measles epidemic. The secondary streptococcal infections were mild at first but later caused severe primary pneumonias with a high mortality rate. Davis considers the tonsillar crypts in humans to be the natural habitat of streptococcus hemolyticus, while on the surface of the same tonsil a nonhemolytic type is usually recovered.

Rosenow believes he can induce mutations of pneumococci into streptococci and vice versa. Before 1927 mutations were considered a bogey. In that year Williams took what was considered to be a single streptococcus and obtained definite evidence that certain lasting changes actually occurred. In 1930, Todd presented evidence to prove that virulent hemolytic streptococci were definitely changed into avirulent non-hemolytic cells by prolonging aerobic subcultivations; and that he can wilfully change them back again, all depending upon the conditions of cultivation.

We know that the pathological effects of streptococcal infections may be local, general, toxic, septic or pyemic, depending on the type of organism or organisms, site of infections and susceptibility of the host. All types of effects are seen. The virulent hemolytic streptococcus can produce a fatal general infection causing death within a week. Less virulent streptococci may form a local abscess or edema first. A still less virulent type is capable of producing all grades of more or less localized inflammatory reaction in different parts of the body.

Regarding treatment, nothing stands out with so much importance as prophylaxis. A mass of literature is found concerning the treatment of this condition, offering a veritable maze of ideas. New therapeutics are now lauded; now discarded. And, through all this, certain fundamental ideas stand out well above the others. These are well incorporated in the following thera-

peutic methods cited by the late Doctor Polak:

1. Firm uterine contractions;
2. Supportive measures as indicated;
3. Fresh air and sunlight;
4. Early and repeated blood transfusions;
5. Stimulations of leukocytosis with foreign proteins;
6. Incision and drainage of localized collections; and
7. Intelligent aid in the development of nature's defensive mechanisms.

We might point out here in passing that Case No. 1 had a focus of free suppuration and she recovered. Fochier recommended the production of an abscess formation by the injection of turpentine in the thigh, reporting 120 cases in his series.

To go beyond these fundamentals, one finds a wide variation in the treatment of this condition, even in first class institutions. As a matter of interest I am listing below the accepted treatments given in six well known hospitals in the British Isles where the mortality rate is possibly lower than found elsewhere:

1. The Rotunda Hospital: Prophylactic posture; fomentations to the abdomen; anti-anemic measures; serum quinine treatment; colossal iodine; polyvalent anti-streptococcic serum; quinine and femergin; Lukers' treatment; blood transfusions; vaccines; hysterectomy in suitable cases.

2. Coombe Hospital: Prophylaxis consisting of the injection of 2 per cent mercurochrome into the vagina with a syringe every twelve hours in a delayed labor and before any vaginal examination; the use of cotton wool instead of cotton; anti-streptococcic serum in any case of operative obstetrics except low forceps. Treatment consisting of: Karsulphan 3 gms. intramuscularly at 0, 6, 24, 48, and 96 hours (except in cases of toxemia); Luker's treatment, consisting of the daily intravenous injection of 20 c.c. of colossal iodine for five days; the use of scarlatinal antitoxin. No vaccines are employed.

3. National Maternity Hospital: The infected uterus is never entered except for control of hemorrhage or if it is certain that some placenta is retained. In general sepsis, treatments are mostly on general lines: Saline per rectum; whisky by mouth; blood transfusions; antistreptococcic serum

in large doses—50 c.c.; mirion or omnadin. Hysterectomy has not been done.

4. Professor Lowry, Belfast: Routine autogenous vaccine, if the organism is found, administered early to start with—one half million in cases of streptococcic infections; keep on blood transfusions; has done no hysterectomy nor ligation of pelvic veins.

5. Professor Murray, Newcastle on Tyne: Feels the whole treatment of puerperal sepsis is in a most unsatisfactory state. He does not employ vaccines in acute cases and is doubtful of their value in chronic ones; he has faith in polyvalent antistreptococcic serum given in intravenous saline; and regards hysterectomy as wholly unjustifiable.

6. Queen Charlotte's of London has just opened up their isolation department. They give routinely intrauterine glycerine after Hobbs' technic. They also employ Metarsenobillion; Radiostoleum and S. U. P. occasionally. Vaccines and sera are not much thought of. Various intravenous solutions have been tried with invariable fatal results.

To be sure, it is a far cry from the time of Semmelweiss till now. Wonderful advances have been made but now advancement has apparently stopped. His contemporaries were reluctant to embrace the suggestions then advanced. It would be easy for us to commit the same error.

Recently, in a study of puerperal sepsis, intrauterine cultures were made in 171 consecutive cases. As a matter of interest, note in the following tabulations the number of organisms found. They are given with the percentage of their incidence:

26.8 per cent anaërobic diphtheroids; 23.3 per cent anaërobic staphylococci; 6.4 per cent anaërobic Gram-negative bacilli; 3.5 per cent anaërobic gas bacilli; 13.4 per cent aërobic nonhemolytic streptococci; 14.0 per cent aërobic green streptococci; 8.7 per cent aërobic diphtheroids; 8.7 per cent *B. coli*; 4.6 per cent staphylococcus albus; .5 per cent staphylococcus aureus; .5 per cent *B. proteus*; 1.1 per cent monilia; 8.1 per cent showed no growth.

Lest we lull ourselves into a false sense of security. Suppose we review the various bacteria found as positive and probable causes of puerperal infection:

Streptococci, hemolytic and nonhemolytic, pyogenes viridans, etc.; diplostreptococ-



cus puerperalis; staphylococcus aureus and albus, some hemolytic; bacillus coli; diplococcus lanceolatus pneumoniae; gonococcus of Neisser; bacillus pneumoniae of Friedlander; bacillus pyocyaneus; bacillus proteus; bacillus aerogenes capsulatus (Welchii); bacillus fusiformis and spirilla (often found in hospital gangrene); bacillus typhosus; bacillus tetani; bacillus anthracis; bacillus diphtheriae; bacillus influenzae.

To be confronted with such a formidable list reminds me of the old colored parson who preached with fervor and at great length on the text, "In Stato Quo." Following the service, one of the deacons, in congratulating him on his fine sermon, asked the pastor what was meant by the text.

"In stato quo," said the parson, thinking quickly, "Means dat we is in a hell of a fix."

And, gentlemen, that very nearly describes our position.

De Lee gives the following predisposing causes of puerperal fever:

1. Pregnancy itself. 2. Shock of labor. 3. All conditions reducing vitality. 4. Lack of thyroid or action of other blood forming organs. 5. Prolonged labor. 6. Operative interference. 7. Retention of placenta,

membrane or clots. The massiveness of the etiology is appalling.

Then we might first of all conclude that the most important factor in our armamentarium is prophylaxis. Second, the treatment must largely be individual. Third, the thing most generally agreed upon in cases of actual septicemia is to increase the fighting power of the leukocytes and, fourth, the production of a leukocytosis. Fifth, because of more recent bacterial findings regarding mutation, anaërobiosis and auto infections, a portion of the responsibility might well be lifted from the shoulders of the attending physician in these cases of infection. And, sixth, since these organisms have been demonstrated as lying dormant in human tissue 18 years after known introduction, we must strive more than ever to safeguard the initial resistance of the patient.

### Bibliography

1. Brown: The Incidence of Puerperal Infection Due to Anaerobic Streptococci. *Am. J. O. & G.*, 9, 1930.
2. Colebrook, L.: Infection by Anaerobic Streptococci in Puerperal Fever. *Brit. Med. J.*, 2:134, 1930.
3. Davidson, A. H.: Some notes on Puerperal Sepsis. *Irish J. of Med. Science*, 1931.
4. Soule and Brown: Anaerobic Streptococci in the Vagina. *Am. J. O. & G.*, 4, 1932.
5. Thomas: The Epidemiology, Bacteriology and Treatment of Puerperal Sepsis. *J. O. & G. of British Empire—Winter*, 1932.
6. Todd, E. W., and Lancefield: Variants of Hemolytic Streptococci. *J. Exper. Med.*, 48:751.
7. Watkins: Abortion. *Am. J. O. & G.*, 8, 1933.
8. Williams: The streptococcus in Health and Disease. (Volume.)

## THE TREATMENT OF CRANIO-CEREBRAL INJURIES\*

LOYAL DAVIS, M.D.†

Professor of Surgery, Northwestern University Medical School  
CHICAGO, ILLINOIS

Fractures of the skull are unique among the fractures of other bones of the body in that the fracture is relatively unimportant. The injury to the brain should receive primary consideration. This trite statement has been made very often and under many disguises, but cannot be over-emphasized. It is only of academic interest to classify or describe the various fractures of the vault or base. It is impractical and of little help clinically to group symptoms in order that one may speak of the syndrome of "concussion" or "contusion." Such classifications lead the inexperienced to institute a set régime of therapy and do not emphasize the fact that each case of skull injury is an individual problem to be treated, if necessary, by a combination of methods. There should

be no advocacy of one method of therapy in skull injuries. With the full realization that there can be no hard and fast division of the clinical symptoms which accompany skull injuries, it does become necessary for descriptive purposes to point out certain clinical symptoms which are encountered most commonly.

The most simple type of skull injury en-

\*From the Department of Surgery, Northwestern University Medical School. Read before the Surgical Section of the Michigan State Medical Society, Battle Creek, Michigan, September 13, 1934.

†Loyal Davis, M.D., Ph.D., D.Sc., is Professor of Surgery, Chairman of the Division of Surgery, Northwestern University Medical School; Attending Surgeon, Passavant Memorial Hospital, Michael Reese Hospital, and Wesley Memorial Hospital.

countered is that in which the patient has received a blow upon the head, either by a fall or by being struck by a moving object. The period of loss of consciousness, which immediately ensues, may last from a few minutes to several hours. There may or may not be a laceration of the scalp, and a linear fracture of the vault of the skull may or may not be present. In any event, the period of loss of consciousness is an indication of the severity of the cerebral trauma, provided that a careful neurological examination has failed to reveal a disturbance of motor function or other symptoms attributable to direct cortical damage.

In a second group of cases, in which the etiological factors may have been exactly the same, loss of consciousness may be accompanied by bleeding and a discharge of cerebrospinal fluid from the ears or nose. Conjunctival and periorbital hemorrhages may be present. Blood may not escape from the ear and yet the tympanic membrane may be bluish-red and bulging from a hemorrhage which has not perforated through the drum. It may be concluded that under such circumstances blood has found its way into the subarachnoid spaces. Contusion and laceration of the inferior surfaces of the frontal or temporal lobes, or a basilar fracture of the skull are present commonly in this group of cases. Damage to the cerebral cortex in these locations may not be accompanied by evidences of motor or sensory dysfunction as is the case in injury to the brain over the convexities of the surface. As a result of the blood in the subarachnoid spaces, the patient may be extremely restless and difficult to control. In addition, there is always a variable degree of rigidity of the neck which is indicative of meningeal irritation. One or more of the cranial nerves may be damaged in these more severe injuries. Not uncommonly the third, fourth and sixth cranial nerves which innervate the extraocular muscles and the facial and acoustic nerves may be damaged directly or become compressed by the formation of a hematoma.

In a third group of patients, depression of the fractured fragments of the skull may be present. The inner or outer table alone may be depressed, or there may be a complete solution of continuity so that both tables rest upon the underlying brain. Depressed fractures of the skull may be pres-

ent with or without a laceration of the scalp. In severe crushing injuries, the scalp may be lacerated severely and the skull fracture may not only be comminuted but some of the fragments may be driven into the brain. In such instances there are tears in the dura mater and destruction of brain tissue, which may be so pulpified as to escape from the wound.

In contradistinction to those clinical symptoms just described in which coma immediately follows the injury, are those cases in which coma appears some time after the injury. There may be a short period of loss of consciousness, followed by a lucid interval with the onset of a second period of loss of consciousness. Or, the patient may have no loss of consciousness immediately after the injury and then later gradually become comatose. This group of symptoms will be recognized as those characteristic of the classical picture of hemorrhage from the middle meningeal artery. Many descriptions have been given of the combination of symptoms involving the pulse, blood pressure and respirations under such circumstances. However, the most pathognomonic sign of middle meningeal hemorrhage is *dilatation of the pupil upon the side of the hemorrhage*. It should be remembered that bleeding from the middle meningeal artery may occur on the side opposite to that of the skull injury. The importance of this index of increasing cerebral compression which is localized cannot be insisted upon too strongly. If the bleeding occurs slowly, and it is always extradural in these cases, the ensuing coma is slow in developing so that early the patient may be stuporous. Under such circumstances, careful neurological examination will reveal a weakness of the muscles of the face and arm certainly, and possibly the leg. To request a patient who is stuporous to grasp or to perform gross voluntary movements which require considerable effort is not an accurate method of determining slight differences in muscle strength. One should observe the facial muscles in emotional expressions; the differences in the size of the palpebral fissures, or the tendency of the weak upper extremity to fall away as both extremities are held outstretched. It is such slight but definite evidences of motor weakness which corrobor-



ate the surmise of an increasing lesion over the opposite side of the cerebral cortex.

Even though the patient loses consciousness rapidly and cannot coöperate in the examination, one may, by careful observation, detect a difference in the tone of the muscles upon the two sides of the body. The upper eyelids may be raised passively and allowed to fall. On the affected side the eyelid may cover the eyeball slowly or not at all, while on the normal side it quickly returns to its original position. Likewise, the arm may be raised over the face or chest of the patient and allowed to fall. Though the patient may not voluntarily move either extremity, the difference in muscle tone may be observed quite readily as the normal arm avoids the face in its descent. Passive flexion of the lower extremities followed by sudden release is a valuable method of eliciting a difference in muscle tone in the legs. The parietic limb falls quickly and in an abducted position; whereas, the normal limb gradually slides into its original position.

Hemorrhage beneath the dura in an amount sufficient to produce symptoms may occur relatively soon after a skull injury, or many months or years may elapse before the gradually developing hematoma produces symptoms. Subdural hematomas are not uncommon and yet, because of the gradual onset of symptoms, they are not easily diagnosed. The same methods for the detection of slight differences in muscle tone on the two sides of the body may be utilized in these cases to great advantage. Many cases of chronic subdural hematomas are upon record which have produced symptoms years after a supposedly trifling skull injury. Many times these symptoms have been attributed wrongly to intracranial tumors or an organic psychosis.

Finally, several complications may follow skull injuries which add to the gravity of the patient's prognosis. Every patient who has a discharge of cerebrospinal fluid from the ears or nose is potentially a patient in whom a suppurative meningitis may develop. An apparently simple linear fracture of the skull in which a laceration of the scalp has occurred may be followed by the development of an intracranial abscess accompanied by neurological symptoms dependent in their character upon the location and the chronicity of the infectious process. There are many cases upon record

in which air has been found within the cranial cavity, or within the cerebrum, upon x-ray examination of the skull. These cases of pneumocephalus follow fractures through the accessory nasal sinuses which extend into the cranial cavity. They are often associated with a discharge of cerebrospinal fluid from the nose.

It should not be assumed that the changes in the pulse, blood pressure, and respirations which accompany skull injuries are not of importance. However, they fluctuate tremendously in individuals who may have similar types of injuries, and, what is more important, they may vary markedly within short periods of time in the same individual. Therefore, while a careful, frequent record of the pulse, blood pressure, and respirations should be kept, their greatest value lies in the evidence they provide of the effects of therapy rather than of the aid they give in establishing a diagnosis. It is not uncommon to be misled by a slow pulse in an individual who normally has a bradycardia.

It is to be emphasized again that each patient cannot be filed in any one category of symptoms. A middle meningeal hemorrhage or subdural hematoma may develop in an individual who received an apparently minor injury to the skull. On the contrary, a patient with a compound, comminuted skull fracture with depression of fragments may never suffer loss of consciousness. Likewise, a patient with an extensive laceration of the scalp received from a blow of comparatively small force may be in shock from a loss of blood. The important point then is to examine each patient carefully for any evidence of cerebral damage; to be alert to the possible onset of symptoms which point to a latent lesion; to evaluate properly those symptoms which are present and, finally, to recognize the principles underlying their treatment and the methods which can be employed effectively to aid in recovery.

Before the treatment of skull injuries can be individualized it is necessary to have a knowledge and understanding of the mechanism of the cerebrospinal fluid system.

The cerebrospinal fluid, which is produced largely by the choroid plexuses, is poured directly into the lateral cerebral ventricles, which are lined by ependymal cells. That portion of the fluid which is formed by the

choroid plexus in the lateral ventricles passes through the foramen of Monro into the third ventricle, and then by way of the aqueduct of Sylvius into the fourth ventricle. From there the fluid passes into the subarachnoid spaces through the two lateral foramina of Luschka and the medial foramen of Magendie. From the dilatation of the subarachnoid space in the midline between the cerebellum and the medulla (cisterna magna) the fluid flows slowly downward into the spinal subarachnoid space. However, at the same time it passes upward more rapidly about the base of the brain where other subarachnoid cisterns are present, and then more slowly over the cerebral hemispheres. This movement of the fluid is facilitated by impulses transmitted to it by the vascular system. According to the present anatomical descriptions, the subarachnoid space in which the fluid circulates is between the arachnoidea and the pia mater. Numerous delicate spider web-like trabeculae project from the arachnoidea to the pia mater. Flat, polygonal mesothelial cells cover the inner surface of the arachnoid, the trabeculae, the surface of the brain and all blood vessels which pass through the subarachnoid space. These mesothelial cells establish a periadventitial fluid channel about each blood vessel which penetrates the nervous system. The subdural space has but a slight relationship to the circulation of cerebrospinal fluid. However, the dura mater and arachnoidea fuse at the points where the arachnoid penetrates the dense fibrous tissue of the dura mater. These are the arachnoid villi, by which the mesothelial cells of the arachnoid come directly beneath the vascular endothelium of the large dural venous sinuses.

The cerebrospinal fluid then circulates everywhere about the central nervous system; in the ventricles and in the meshes of the subarachnoid space. These channels are lined by special fluid-retaining cells so that a true circulation is maintained. In the arachnoid villi the fluid comes into close relation with the large venous sinuses of the dura mater and it is at this point that absorption occurs. The mechanism of passage of the fluid is a process of filtration from a point of higher pressure to a point of lower pressure with later experimental evidence to show that the fluid is a dialysate in osmotic and hydrostatic equilibrium with

the blood. There is a second method of absorption in which the fluid escapes slowly into the true lymphatic vessels in an indirect manner.

In the presence of trauma to the brain, edema occurs and an actual increase in brain volume follows. Circulation of the cerebrospinal fluid is interfered with, and a rise in cerebrospinal fluid and venous pressure occurs. With the skull and vertebral column as inelastic and rigid containers, the pressure of the cerebrospinal fluid and intracranial vascular pressures have a close relationship. It may be stated that the cerebrospinal fluid pressure varies with the blood pressure but follows more accurately the venous than the arterial pressure. The therapeutic problem is therefore to help re-establish the normal fluid and vascular pressures, and to reduce the increased brain volume brought about by edema.

The treatment of skull fractures may be divided into non-surgical and surgical. By far the larger number of cases fall into the former group, because there are only three indications for surgery in the treatment of skull fractures. These are (1) middle meningeal hemorrhage, (2) subdural hematoma and (3) depressed fractures.

#### Non-surgical Therapy

The first consideration in the treatment of a patient who has received a skull injury is to combat any shock which may be present as the result of hemorrhage, or from the severity of the trauma. Warmth is the most effective single method in these cases, unless of course bleeding from the scalp or from some other injury has been so severe that it is obvious that a transfusion is required. The recovery from shock, without hemorrhage, which follows a skull injury is usually quite prompt unless the injury is so extensive that death occurs within a short time. This statement indicates that there is a group of skull injuries in which active well-directed treatment is of no avail and death occurs soon after the injury.

When blood or cerebrospinal fluid are escaping from the ears or nose, those cavities should be left alone except for a loosely introduced piece of sterile cotton to absorb the discharge. No irrigating solutions of any kind should be introduced into the aural or nasal cavities because of the danger of infection. Examinations of these cavities



should be restricted to the absolute minimum if practiced at all. The adherence to these strict rules is an excellent prophylaxis against a complicating meningitis.

The patient should be placed in a warm bed with the head flat. The use of an ice-bag upon the top of the head is of little or no value. The use of an ice glove over a swollen, edematous cheek or eye aids materially in its reduction.

It is not necessary to rush the patient to the x-ray room for films of the skull. Though a depressed fracture is palpated, it is more important to get the patient into a warm bed than it is to subject him to the manipulations necessary to obtain skull films. Moreover, satisfactory films can be obtained by a portable apparatus which may be taken to the bedside. Even under such circumstances the patient's head should not be forced into unusual positions or roughly handled. When the patient has recovered consciousness and is on the mend, carefully taken lateral, antero-posterior and postero-anterior films may be made. The latter often disclose fractures which cannot be visualized in the lateral position.

The second step to be taken is to reduce edema, brain volume and intracranial pressure. There are two methods employed commonly to bring about these results: (1) the administration of hypertonic solutions and (2) spinal punctures.

### Hypertonic Solutions

In 1919, Weed and McKibben<sup>10</sup> reported that cerebrospinal fluid pressure could be markedly altered by the intravenous injections of solutions of various concentrations. They showed that the intravenous injection of strongly hypertonic solutions lowered the cerebrospinal fluid pressure to such a degree that often negative readings were recorded. With hypotonic solutions (distilled water) a prolonged rise in fluid pressure occurred. Accompanying these changes in the fluid pressure, Weed and McKibben<sup>11</sup> found marked alterations in the volume of the brain, so that the hypertonic solutions produced a small, shrunken brain.

These findings have been confirmed many times both in the laboratory and clinically, so that clinical applications of these phenomena have been developed. Cushing and Foley<sup>2</sup> showed that the ingestion of hypertonic solutions reduced cerebrospinal fluid

pressure and Foley and Putnam<sup>4</sup> administered hypertonic solutions intra-intestinally with similar results. Many neurological surgeons have observed the decrease in brain volume at the operating table after the administration of intravenous hypertonic solutions. Weed and Hughson<sup>9</sup> extended the original observations somewhat in addition to confirming the effects of hypertonic solutions and showed that the cerebrospinal fluid pressure became profoundly lowered, while the sagittal and brachial venous pressures remained about the same. It is, therefore, possible to reduce cerebrospinal fluid pressure without greatly affecting the systemic blood pressure. These changes in the cerebrospinal fluid, effected by hypertonic solutions, have their explanation in the alteration of the osmotic pressure of the blood. The increase in the pressure of the cerebrospinal fluid and in the brain volume may be taken to mean a passage of fluid from blood vessel to tissue. The fall of cerebrospinal fluid pressure and brain volume after the injection of hypertonic solutions points to the attraction of water from the body tissues and possibly from the body fluids.

It was natural that these physiological findings be developed for clinical use. It was found early that hypertonic saline solution was dangerous because of its effect upon the kidneys, among other organs. Fifty per cent glucose solution was substituted for intravenous injection. For adults in coma, 100 c.c. of 50 per cent solution should be given intravenously every 12 hours until the patient becomes coöperative. It may then be given as the patient's condition warrants. It should be given slowly and as long as 30 to 40 minutes should elapse for the injection of 100 c.c. For children the dosage should not be over 50 c.c. of the same solution and this may be reduced according to the age of the patient. Clinical experience indicates that the same results cannot be obtained by giving 200 c.c. of 25 per cent solution instead of 100 c.c. of 50 per cent solution.

Magnesium sulphate in a saturated solution may be used by a Murphy drip intrarectal administration. One hundred fifty c.c. every 3 to 4 hours may be given to an adult. In spite of a slow administration, the rectal mucosa soon becomes irritated and the patient begins to expel the

solution. If oral administration can be used the solution may be given once every 24 hours in a 5 or 6 ounce dose. If this is impossible, because of coma, a stomach tube should be passed and hypertonic solutions administered in that manner.

At the same time the intake of fluids should be restricted to that amount which will avoid the equally dangerous results of dehydration. The administration of fluids can and should include liquid foods so that the patient in coma is not allowed to go without food sufficient to maintain his nutrition in a resting state. If necessary these should be given by a stomach tube, and a solution of cream, eggs and sugar which contains one calorie for each cubic centimeter of fluid has been found to be very efficient. An adult may be given 600 c.c. of this mixture three times daily. This is not enough at any one feeding to be regurgitated and at the same time furnishes an adequate number of calories.

### Lumbar Puncture

A lumbar spinal puncture may be a valuable aid in the treatment of skull injuries, or at the same time it may be most dangerous.

Blood in the subarachnoid spaces is a source of meningeal irritation, the prominent symptoms of which are restlessness and rigidity of the neck. Both of these symptoms vary with the amount of blood present. Extensive basilar injuries with a large amount of blood in the basilar arachnoid cisterns may produce a clinical condition which simulates experimental decerebrate rigidity.

Unfortunately, it has become a common practice to perform lumbar punctures as a matter of routine to determine the presence or absence of blood in the cerebrospinal fluid. Careful examination of the patient, particularly if there is an escape of blood and fluid from the ears, makes a lumbar puncture for diagnostic purposes unnecessary.

It is in these patients with blood in the subarachnoid spaces that lumbar puncture has its greatest usefulness. An accurate manometric reading should be made of the initial pressure. Removal of the fluid should be done under constant manometric control, so that the cerebrospinal fluid pressure may not be reduced far beyond the normal,

which varies between 180 and 200 mms. of water pressure. The removal of bloody fluid from a patient who is restless and difficult to control produces striking results. This should be repeated at intervals of 8 to 12 hours or less, depending upon the patient's symptoms. It will be found that the fluid becomes less bloody, then xanthochromic and finally clear as the symptoms disappear.

Lumbar punctures are often employed repeatedly to maintain reduced cerebrospinal fluid pressure. While this may be accomplished for a short period, the pressure does not remain lowered. It must be remembered, too, that in addition to an increase of pressure there exists an increase in brain volume and it has been proven that hypertonic solutions reduce both brain bulk and cerebrospinal fluid pressure.

Finally, lumbar punctures done without manometric control and in which there is a sudden reduction of pressure at the lowest point in the spinal fluid system are dangerous. Minute hemorrhage in the brain stem and sudden collapse of the cerebellar tonsils into the foramen magnum may occur with a fatal termination. Especially are these circumstances likely to occur in children. The physiological reduction of pressure by hypertonic solutions is certainly more efficient and less dangerous than the mechanical reduction by spinal puncture.

### Nursing Care and Drugs

Patients with skull injuries must be nursed carefully. Many times the patient is restless only because of a distended urinary bladder, or because of bed clothing which has been wet by an involuntary urination. There is perhaps no other one group of patients who generally receive so little careful, detailed nursing attention as the skull injuries, particularly in large charitable institutions. Good nursing, with the judicious use of restraints, will make unnecessary the commonly employed narcotic drugs.

Morphine should be absolutely contraindicated in every case of skull injury. In the first place morphine is a medullary depressant and adds only to the depression of the respiratory and vasomotor centers of the medulla. It is common to see a Cheyne-Stokes respiratory rhythm disappear when morphine has been stopped. Secondly, morphine masks the most valuable symptoms of gradually increasing intracranial compres-



sion. It is impossible to judge whether the stupor is increasing or decreasing. The contracted pupils which result mask completely the important pupillary dilatation of a localized hemorrhage. Its only advantage is that it produces quiet, which can be effected in the majority of instances by less dangerous methods. If it is believed that some medication is absolutely necessary, then drugs with less depressant effects upon the medulla should be employed. However, the use of hypertonic solutions, the removal of blood from the meningeal spaces, and good nursing accomplish this result with far more benefit to the patient, but these methods do require detailed care and attention. Recently Kennedy and Wortis<sup>5</sup> have recommended the administration of caffeine sodiobenzoate, in 0.5 gm. doses every four hours for the reduction of intracranial pressure and have presented good evidence in support of their views.

Every patient with a skull injury, accompanied by coma, should be kept flat in bed at all times for a minimum period of two weeks and this time should be extended in the more severe cases. It has been amply demonstrated that this is an excellent prophylaxis against the disturbing late symptoms of headache and vertigo which many of these patients develop.

#### Subtemporal Decompression

It should be noted that a subtemporal decompression has not been described as a method of therapy in this group of skull injuries to which by far the largest number of patients belong. No matter how carefully performed and in the hands of a surgeon experienced in handling nerve tissue, some edema will follow this operation. This adds only to that intracranial pressure which already exists. It has been proved that the mortality rate following the treatment of skull fractures in a large charity hospital has been lowered tremendously since the abandonment of decompression operations for the relief of traumatic edema.

#### Surgical Treatment

This naturally brings up the question of just what the indications are for surgical treatment. To repeat them they are (1) middle meningeal bleeding, (2) subdural hematoma and (3) depressed fractures.

#### Middle Meningeal Hemorrhage

The three most characteristic symptoms

of this condition are (1) dilatation of the pupil upon the side of the *hemorrhage*; (2) gradual onset of coma with or without an early lucid interval; and (3) the presence of signs of motor weakness on that side of the body opposite to the dilated pupil. The location of the external injury to the scalp or of the skull fracture must not influence the localizing diagnoses in these cases.

Middle meningeal arteries may vary enormously in their relations between the two sides of the head. The most common type is that which has an anterior and posterior branch which arises from the main trunk as it lies in the middle fossa, near the foramen spinosum, or farther up on the dura mater covering the lateral surface of the temporal lobe. However, there may be two or more branches running anteriorly and posteriorly. The fact that the parent trunk or any of these branches may be torn should indicate definitely the character of the operation which should be performed.

A typical osteoplastic craniotomy operation should be done with the temporal bone as the center of the bone flap. Attention should be paid to all of the meticulous details of such a procedure. There should be no bleeding from the scalp during the operation if proper hemostasis is employed. With the flap elevated, the clot should be irrigated away with normal saline solution and the origin of the bleeding discovered. If it is on the surface of the dura, a fine cambric silk suture or a silver clip should be used for ligation. It may be necessary to elevate the dura from the floor of the middle fossa and compress the vessel into the foramen spinosum by bone wax in order to control the bleeding successfully. If very small oozing points still remain on the surface of the dura, small muscle stamps prove very efficient in controlling the bleeding. The bone and scalp flap should be replaced and sutured with the finest catgut or cambric silk sutures, layer by layer. No drainage material should be used if hemostasis has been effected. The bone flap should be so securely fastened that riding cannot occur. Any operative procedure which does not afford a rather extensive view of the middle cranial fossa and the convex surface of the cerebral hemisphere is likely to be accompanied by serious difficulties.

### Subdural Hematomas

A rather trivial injury to the head may be followed, in certain individuals, by symptoms of cortical irritation and of increased intracranial pressure due to a subdural hematoma. These symptoms develop after a latent period which may vary from a few hours to months, or years. The hematoma, which is subdural and not extradural, is enclosed in a continuous membrane which may be slightly adherent to the dura but not to the arachnoid. On the arachnoid side this membrane is thin and is covered by a layer of mesothelium-lined spaces containing blood and fibrin.

In some cases in which the onset of symptoms is delayed for only a few days following the trauma it may be that the bleeding occurs immediately after the accident and symptoms develop only when the brain becomes edematous. In the more chronic cases, the hematoma may be very thick, olive green and mottled, and this rather characteristic color is transmitted through the dura mater. The exact source of the bleeding is not as yet known accurately. In some instances the subdural hemorrhage is acute and quite extensive so that symptoms are produced immediately. Under such circumstances an extensive dural or cortical laceration proves to be the source of the hemorrhage.

When the presence of a subdural hematoma is suspected an exploratory craniodural opening over one or both hemispheres will give the most reliable evidence of the presence of the clot. Very frequently the hematoma is bilateral. Occasionally, the spinal fluid may be slightly xanthochromic but more often it is normal in appearance. If the diagnosis is verified, an osteoplastic craniotomy with reflection of a dural flap should be done. The clot should be removed as intact as possible. It may be peeled off the underlying cortex rather easily and resembles a fresh piece of liver in its consistency. Here again hemostasis must be very painstaking. If the clot is removed carefully and completely there is little danger of its reformation. On the other hand, cerebral edema may occur in the brain which is suddenly released from a rather long continued pressure. Therefore, it may be advisable to leave a stellate shaped opening in the dura mater over the temporal lobe and remove the temporal bone from the

bone flap, thus affording a decompression opening. The additional use of hypertonic solutions intravenously will aid in the treatment of the patient.

The diagnosis of this condition is often very difficult and a hematoma may be encountered when least expected. Putnam and Cushing<sup>8</sup> have given a comprehensive description of the chronic subdural hematomas and since the appearance of their article many other reports have appeared in the literature. Only recently, Fleming and Jones<sup>3</sup> have described a method of drainage for the treatment of these patients.

### Depressed Fractures

Depression of one or both tables of the skull may occur without any scalp injury. It is sometimes difficult to determine the presence of a depression without carefully made x-ray films of the skull. Often upon palpation the periphery of an extensive hematoma of the scalp will give almost the exact impression of a large depression of the bone. This should always be checked by roentgenograms.

It is the simple depressed fractures which require careful and conservative judgment concerning their treatment. Certainly not every depression of the skull should be operated upon. Rather pronounced depressions of the bone may not produce the slightest neurological symptom. To operate upon each case because of the anticipation of epilepsy or other evidences of a cortical nature is to disregard the small percentage of relationship between these symptoms and extensive skull injuries which was brought out in the Great War. If obvious symptoms are present with a depressed fracture, the defect should be remedied. A small scalp flap incision should be made with the depression as the center. Persistent attempts to pry the fragments back into position should not be made. There is no reason why the fragments should not be approached by a rongeur through a burr hole opening in the adjacent normal skull and removed. Less damage to the underlying dura and brain is likely to follow the latter procedure.

Large, extensive wounds of the scalp and skull may be accompanied by comminution of the bone fragments, some of which may be driven through the dura mater into the brain along with other foreign materials. These ragged, lacerated wounds of the scalp



should be cleaned with soap and water, irrigated lightly with saline solution and the surrounding scalp should be shaved carefully. The wound should then be converted into a tripod incision and the edges debrided. These three flaps of the scalp may be retracted and the skull injury explored carefully. A tear in the dura should not be enlarged. Pieces of indriven bone, hair or clothing should be removed, with a fine forceps. A soft rubber catheter should be passed through the opening in the dura and into the wound in the brain. By irrigating gently through the catheter with sterile saline solution and by gentle suction with a glass syringe and bulb, pulped brain and very small pieces of bone will escape from the wound in the brain.

The scalp incisions should be closed carefully and in layers, particularly over the site of the original laceration. A small rubber tissue drain may be placed in one of the angles of the incision and left for 48 hours. The dangers are, of course, the development of a brain abscess and meningitis. The frequency of these conditions is much less in a wound which is converted into one which can be primarily sutured.

### Treatment of Complications

*Meningitis.*—Repeated lumbar punctures, when and if a meningitis has complicated the clinical picture, are of great benefit. They provide a method of draining the infected subarachnoid spaces and should be repeated as often as every 6 hours if necessary. A careful cell count of each specimen removed should be made and at each puncture the pressure should be reduced to normal or slightly below. In addition, the patient should be given large amounts of fluids by mouth or subcutaneously during a 12 hour period. During the following 12 hours hypertonic solutions should be given intravenously in addition to lumbar spinal drainage. By this means one may hope to wash out the subarachnoid spaces. Often the exudate of a suppurative meningitis may produce an obstruction in the subarachnoid spaces about the cisterna magna and lumbar puncture will not drain these spaces effectively. This may be determined by a Queckenstedt test, which consists in light compression of the jugular veins with a lumbar puncture needle and manometer to record the fluid pressure. Normally, light pressure upon the jugular veins is followed by a

prompt rise in the pressure, and release is followed by a prompt fall. The presence of a block in the subarachnoid spaces between the cranial cavity and the lumbar spinal sac prevents this phenomenon. It may then become necessary to perform a cisterna magna puncture to drain the infected subarachnoid spaces.

The introduction of various types of sera into the spinal canal in suppurative meningitis is of little avail. Pollock<sup>7</sup> has shown that any substance introduced into the lumbar canal never ascends higher than the medulla, unless an opening be made into the dura over the cerebral hemispheres. Laminectomies with the introduction of a drain into the spinal dural sac have been performed in an attempt to provide drainage in cases of suppurative meningitis. The recorded results have not been sufficiently beneficial to afford much hope in this method of treatment.

*Brain Abscess.*—Abscesses may develop in the tract of the brain injury and are under those circumstances commonly associated with a meningitis. On the other hand, an abscess may occur following an apparently trivial scalp and skull injury, but one which has produced a small tear in the dura mater.

As in all intracranial abscesses, the treatment and its success depend upon the chronicity of the infection and the ability of the brain to wall off the infection. Abscesses which have a surrounding wall may be drained by repeated punctures, or by the introduction of a small tube into the cavity. Those which are more acute do not offer a favorable prognosis nor a field for successful surgical therapy.

### Pneumocephalus or Aërocele

A fracture of the skull which passes through the paranasal sinuses or mastoid air cells may be accompanied by air within the cranial cavity. Sneezing, coughing, straining or swallowing is necessary to force air through the bony and dural defect into the cranial chamber. The air may be located within the subarachnoid spaces; the subdural space; the brain or the ventricles. Air may often fill the frontal lobe and extend backward into the parietal lobe. The shadow is usually round or oval and projects backward from the frontal lobe. The cavity always communicates with the frontal or ethmoid sinus by an opening

which may be so minute as to be overlooked easily. The symptoms of aërocele are mainly those of increased intracranial pressure. A cerebrospinal fluid discharge is usually present and rhinorrhea after sneezing or a change in posture is almost pathognomonic. X-ray films will furnish an absolute diagnosis. Dandy<sup>2</sup> has reported 28 cases of aërocele and has suggested an operative method by which a transplant of fascia lata is used to repair the dural tear.

### Post-Traumatic Symptoms

The most common complaint of patients who have apparently recovered from a skull injury is headache. The majority of patients complain of generalized pains in the head which are not well localized and which are increased by changes in posture. A smaller number complain of well-localized headaches which are persistent and unchanging in their location. The first group may be benefited most in a prophylactic manner by insisting that the patient remain flat in bed for a minimum period of two to three weeks. Penfield<sup>6</sup> has shown that the second group of patients have a collection of fluid in a localized portion of the cerebral subarachnoid spaces. In his opinion this accounts for their severe headaches. He has provided relief for these patients by substituting air, introduced by lumbar puncture, for the fluid. The air is later absorbed.

Dizziness, which must be differentiated from a true vertigo, is also a common complaint. Upon close questioning of the patient it may be developed that the complaint is really of unsteadiness upon stooping or looking upward. If the patient remains flat in bed for a sufficiently long period, this symptom is less likely to be present. True vertigo, in which objects rotate about the patient or vice versa, may follow a basilar skull fracture in which the eighth cranial nerve is injured.

Residual symptoms due to organic lesions of the central nervous system depend entirely upon the extent and location of the injury. Hemiplegia, or a monoplegia, may occur, but if there has not been an actual destruction of brain tissue the degree of recovery may be most striking. Daily physical therapy treatments consisting of massage, passive movements, electricity and active exercises should be employed to ad-

vantage in these patients. Facial paralysis, peripheral in type, may be the result of an injury to that nerve in its course through the facial canal. The physiological function of this nerve may be interrupted by hemorrhage within the facial canal and under such circumstances, aided by a supporting splint for the facial muscles and physical therapy, the degree of recovery may be striking. Residual sensory symptoms from cortical damage are rarely encountered. Aphasia may occur as a part of a hemiplegia, but unless the cortical damage is enormous, recovery may be expected. Mental symptoms may persist for a long period of time following a skull injury. They may consist of disorientation, loss of memory, emotional and habit changes.

Convulsions, which usually begin as focal attacks, may follow immediately upon the receipt of a skull injury or their onset may be long delayed. In the majority of cases, convulsions do not occur. It is impossible to prognosticate the occurrence of convulsions upon the location or extent of the brain injury. The basic status of the patient's nervous system probably plays a large factor in their development. In those cases of definite focal attacks which are followed by motor impairment, plastic cranial operations may be of service.

### Bibliography

1. Cushing, H., and Foley, F. E. B.: Alterations of intracranial tension by salt solutions in the alimentary canal. *Proc. Soc. Exper. Biol. & Med.*, 17:217, 1919-1920.
2. Dandy, W. N.: Pneumocephalus (intracranial pneumatocele or aërocele). *Arch. Surg.*, 12:949, 1926.
3. Fleming, H. W., and Jones, W. O., Jr.: Chronic subdural hematoma; simple drainage as a method of treatment; report of eight cases. *Surg., Gynec. & Obst.*, 54:61, 1932.
4. Foley, F. E. B., and Putnam, T. J.: The effect of salt ingestion on cerebrospinal fluid pressure and brain volume. *Am. J. Physiol.*, 53:464, 1920-1921.
5. Kennedy, F., and Wortis, S. B.: How to treat head injuries and appraise them. *J. A. M. A.*, 98:1352, 1932.
6. Penfield, W.: Meningocerebral adhesions; a histological study of the results of cerebral incision and cranioplasty. *Surg., Gynec. & Obst.*, 39:803, 1924.
7. Pollock, L. J., and Favill, J.: The intervertebral treatment of diseases of the central nervous system exclusive of the intraspinal treatment of cerebral spinal syphilis. *The human cerebral spinal fluid*. New York: Paul B. Hoeber, Inc., p. 475, 1926.
8. Putnam, T. J., and Cushing, H.: Chronic subdural hematoma. *Arch. Surg.*, 11:329, 1925.
9. Weed, L. H., and Hughson, W.: Systemic effects of the intravenous injections of solutions of various concentrations with special reference to the cerebrospinal fluid. *Am. J. Physiol.*, 58:53, 85, 130, 1921.
10. Weed, L. H., and McKibben, P. S.: Pressure changes in the cerebrospinal fluid following intravenous injections of solutions of various concentrations. *Am. J. Physiol.*, Baltimore, 48:512-530, 1919.
11. Weed, L. H., and McKibben, P. S.: Experimental alterations of brain bulk. *Am. J. Physiol.*, Baltimore, 48:531, 1919.



## A PHYSICIAN'S PHILOSOPHY

J. A. MacMILLAN, M.D.†  
DETROIT, MICHIGAN

As medicine becomes more openly exposed to public view, physicians will continue to be benefited by an increasing number of comments and criticisms and be given the opportunity of seeing themselves as others see them. The fronts on which medicine has been conducting its campaign of reform are standardization of hospitals, clinical records, requirements for graduation, staff clinics and in general standardization of medical and surgical methods. The reforms and progress accomplished have received the enthusiastic approval of the medical profession, and from the public some acknowledgment, but no vociferous demonstrations. The physician and the patient view the practice of medicine from different angles. It is the purpose of this paper to consider the philosophy of a physician, a subject that has received some comment recently from those outside the medical profession. An eminent journalist in the course of a lecture to a medical society said that when he was in need of a physician for himself, he would seek one with some philosophy and it was implied that the search might be prolonged. Another occasion was an address of welcome given by a college president to a national medical convention. The theme and substance of this discourse were that specialism had robbed medicine of coördinated knowledge of man and left physicians little or no philosophy of life.

A jurist in a very interesting after dinner speech deplored the fact that in scholarly attainments, medicine had deteriorated, could no longer be considered a learned profession and was far removed from any form of culture deserving the name of philosophy. Such criticism should receive the serious consideration of physicians and no attempt will be made here to refute it.

However, it may be stated that there are many philosophies, not necessarily conflicting but colored by the various experiences upon which they are founded. Men of the sea are inclined toward fatalism; statesmen believe that majorities cannot be wrong; the American colonists pinned their faith in liberty; teachers are confident that education is the hope of the world; Aristotle taught that the mean between extremes was universally the best; shoemakers think there is nothing like leather, Plato maintained a philosophy of idealism, and similar-

ly a physician's philosophy is shaped and branded by the experiences and traditions upon which it is founded.

As a preliminary to a discussion of this subject there must be a settled and definite understanding of the sense in which philosophy is used. Philosophies are divided into two classes—cosmic and personal. The former refers to speculative discussions of the nature of the universe. It is synonymous with metaphysics. This paper aspires to no such ambitious heights.

Personal philosophy is often referred to as the philosophy of life. It is essentially practical, and it serves as a guide which influences or determines a man's actions and conduct. In addition to its practical implication, a physician's philosophy includes such an understanding of the phenomena and affairs of his every-day experience that it forms a basis and a direction for his life's work.

This definition of philosophy is given by Webster and other lexicographers; it covers the sense in which the word is quite commonly used, and the plan which it includes gives a unity to the widely diverse phenomena met with in human experience.

Medicine is concerned with the phenomena of life, and, dissimilar as the various forms and manifestations of life are, they have in common certain basic features inherent in their plasma, the substance that contains the living principle. The microscopic infusoria, the huge saurian monsters, the mammalian giants of the sea frisking about among the icebergs, the minute builders of coral islands, all possess living plasma which in certain basic features is identical. In this respect man is no exception to the rule. No organism that is alive is without its share of this vital substance. And here at this time may be mentioned the fact that living plasma is pos-

†Dr. J. A. MacMillan graduated from the Toronto University School of Medicine in 1893. His practice consists of general surgery and clinical proctology. He is proctologist to Providence Hospital, of which he is a staff member, and is also a lecturer on surgery at the Medical Department of Wayne University.

sessed only by individual owners. It is never held in trust. It is never held by a community nor a government, nor a stock company. It is absolutely individualistic.

The inductive method of reasoning does not serve for the development of a philosophy. Its truths and conclusions cannot be reached by methods that begin at particulars and end with general conclusions. All philosophy is a matter of deduction, a process by which a general principle is postulated and from it are deduced particular truths. The general principle or major premise in this discussion is formed by the basic characters of living plasma.

Biologists have enumerated five basic features of plasma. One of these is the power to assimilate nourishment and apply it to its own upbuilding and growth, and a second feature is reproduction, a propensity that has led to the swarming populations that fill the whole earth. All living plasma is possessed of a nervous sensibility by virtue of which it reacts to external stimuli. From this characteristic arise all the woes and wars of the world. In addition to these there is inherent in plasma a primordial, elemental tendency toward the evolution of new species possessing better and more complex organisms. In their primary studies and in their professional experience physicians are confronted with such a mass of evidence in support and confirmation of the theory of evolution that, I believe, it may be accepted as a postulate in their philosophy.

No other substance has such aptitude to accommodate itself to the changing and stormy vicissitudes of its environment, and although delicately composed, and in spite of hostile and destructive enemies and forces encountered, life in its various forms has spread to the four corners of the earth and to the length and breadth of the seven seas.

Five hundred years before the Christian era, Heraclites expounded the theory that everything was in a condition of flux, and that change was the very essence of existence. He wept over the fact that man had no firm place upon which to set his foot or rest his soul. Had he gone a step further he would have seen that this ceaseless change was not promiscuous and haphazard, and that it is working toward an end, purposeful and progressive.

Life is not a stagnant pool, it is a flowing

river carrying the human race ever to higher standards, to newer and better things, to more complete understanding of his environment and to marvelous revelations of the potentialities within himself.

The drama of the plan of evolution is the greatest thing on earth except it be the end toward which it is directed. A retrospect of the last two thousand years warrants the belief that the future holds for medicine, progress and attainments beyond our most optimistic conceptions. As man can work with the good earth to increase its yield so he may work with the forces of evolution toward his own betterment and the improvement of his condition.

So far there have been mentioned the three following conclusions:

1. Evolution is inherent in living substance. It is the foundation of effort, of progress, of inspiration and of hope.

2. The individual holds in fee simple this life substance with all its potentialities. The progress of a city, community or nation can only mean the sum of the progress of its individuals.

3. The direction and promotion of man's progress is to some extent within his own control, and to the same extent is his responsibility.

If then evolution is the master key of medical philosophy, it is pertinent to inquire into the conditions favorable to its progressive development. This inquiry is the more relevant because at times evolution in man, as well as in the lower animals is interrupted, and processes of retrogression and even extermination supervene.

From the pages of history, from the conditions about us, from the testimony of geology, from biology and other scientific data, it is demonstrated beyond all reasonable doubt that progressive evolution exists only in an environment of struggle. It is essentially a struggle for existence and to a large extent is tragic.

This is not a pleasant aspect of life, but it is the duty of philosophy to state what is and not to describe a Utopia of some man's imaginings. On the other hand Nietzsche's view that the battlefield alone can produce progress and supermen, does not seem to be supported by sufficient evidence. However, if there were no wretchedness, no poverty, no wounds and no diseases, there would be no need for, nor development of



charity among men, nor for the evolution of any other humanitarian quality. This, however, was not the line visioned along which the supermen were to proceed. While it can hardly be said that tragedy and progressive evolution are related as cause and effect it must be admitted that the forward march of life from its beginning has been along a road paved with tragedy.

From their lurking places in the jungles and deep seas, monsters dash forth and devour their timorous quarry. Impelled by the hungry cries of its brood, the eagle swoops down upon the shivering lamb and the bullet from the herdsman's rifle ends the venturesome effort, and as night closes down along the mountain side there is heard the wailing of starving eaglets and the plaintive bleating of a bereft ewe. By speed, power, poison, strategy, wiles, fangs, and claws, the carnivora ensnare, entrap, strangle, kill and devour the herbivora, and those of the same species contend in a life and death struggle for supremacy. Carnage is innate to the life of animals; without this struggle they would degenerate, lose their cunning, speed, ability to wrest a livelihood from nature and would disappear. No longer would they be able to fend for themselves or to make provisions for winter storms. Like driven cattle they would be compelled to accept ignominious dole, food and shelter at the hands of a farmer and end their days not among hills and dales and music of mountain torrents, but in the hopeless shambles of the stockyards. The entire course of animal life from its inception has been an intense and tragic struggle, but as a sturdy ship weathers the storm so evolution proceeds on its charted course toward its unknown destiny. In the human race and with full speed ahead evolution continues onward.

In our own day the increasing functional activities of the brain, thyroid and suprarenal glands will produce an increased blood supply to these organs and, eventually, the evolution of the new structural development. On the other hand degenerative processes are evident in the skin and its appendages. The teeth, hair, color and resistance against disease reveal indications of retrogression processes. Probably due to its decreasing blood supply the skin has become an easy prey to inflammations, infections, and cancer. Retrogression changes are evident in

the alimentary tract, in the appendix vermiformis, in the colon, in the duodenum, and in the stomach, impairment of function, ptosis, inflammations, infections, ulcers, and cancer are found with increasing frequency.

The telephone and motorcar have taken the place of the sturdy musculature of the legs, the arches of the feet have collapsed and are on the painful path of desuetude.

The inherent pressure urge toward progressive development and evolution is still operating and with undiminished energy. Had there been no agony from searing irons, no disabling contractions in hands and feet, no ravages of smallpox, of typhoid, of yellow fever, of malaria, no abdominal tumors, no syphilis, there would have been no Paré, no Eberth, no Osler, no Gorgas, no Laveran, no McDowell, no Hutchinson, and no medicine nor medical progress.

When efforts to check and stay the adverse forces of devastation fail, individuals and nations go down to destruction. The farflung ranges of the Andes know no more the flourishing Aztecs. The gophers mine the ground where once stood the cities of the mound builders. Of many extinct cities only scanty bits of their former grandeur remain to be exhumed by archeologists. Ancient Babylon, Persia, Egypt, Greece, and Rome have long since fallen and laboriously we dig the story of their greatness from their dead languages. The tragic history of the Eskimo and North American Indians will end probably in their complete extinction.

In this day in the civilized countries of the world unemployment, poverty, class antagonism, crime and fear are increasing, new and untried plans of government are enforced, the dictator is abroad among the nations, and immense armaments of destruction are ready for mobilization.

Lloyd George describes "the world today as a jungle. The nations are prowling through it, snarling and baring their teeth at each other. At any moment a mistaken gesture or misunderstood arrangement may make them spring at each others throats." There would seem to be sufficient trouble and tragedy now, without another Armageddon so soon.

Literature, the portrayer of life and its realities, always contains a background of tragedy, from Homer's *Iliad* and the

dramas of Sophocles and Euripides to Shakespeare and Ibsen. The biblical writings are essentially tragic. Comedy and other light forms of literature, as palliatives and narcotics, afford a brief hour of rest to over-strained humanity.

Through mythology, the fantastic religion of the ancient Greeks, there runs a vein of philosophy, fundamentally sound and characteristic of those erudite people. They had clearly seen that without intense struggle, without tragedy or near tragedy, no human progress or development was possible.

Before the goddess Ceres taught the art of agriculture to man, she was forced out of the high heavens and on earth was ignominiously transformed into a heifer, and her beautiful daughter Persephone was kidnapped by Pluto and taken to hell. After these and other magic calamities, and through pity for starving men, the goddess inaugurated on earth the art of farming.

Vulcan set up the first forge on earth, made thunder-bolts and fireworks for the King of the Heaven and established among men the art of metallurgy. But this service did not come to mankind without and until that fiery god suffered the most stupendous and spectacular accident ever described in literature medical or profane. He was flung by Jove over the high battlements of heaven, and the reliable Homer says, "He fell from morn till dewy eve, a summers' day, and from the zenith with the setting sun landed on Lemnos, the Ægæan Isle."

Even in medicine the ancient Greek saw inevitable tragedy at its source. Esculapius was delivered after the death of his mother, and, much after the fashion of Romulus and Remus, was kept with a herd of goats, fed on their milk and for years lived among the rule barbarous centaurs from whom he learned their *materia medica*.

In the literature, philosophy, and religion of the ancient Greeks, tragedy is found as the basis of human development and progress. And this is also true of higher realms of humanitarian ideals. For in the drama of Euripides even Pallas Athena, the goddess of war, wept over the fallen heroes of burning Troy.

There is a prevalent assumption that progress consists of a reduction in man's labor, struggle, tribulation and tragedy, and in an increase in his idleness, leisure, and luxury. However efficacious this assumption may be

for inflammatory declamation and as a political slogan, it is, I believe, fallacious and quite pernicious. At least it may be stated that this view of progress is unsupported by the fact of progressive evolution of man or of living things in general.

Necessity and tragedy have developed the best in organic life, and without these two grim and unrelenting drivers, life would become reactionary, void of stimulus for effort, for invention, or for heroism.

Those of us who are habituated to, and have a home in some corner of this jungle would not exchange it for a place in the sun, but a lone individual wandering through this universe among the stars and planets in search of a place to take up a residence as a homesteader would not at the present time be likely to select the earth.

Let us look at the inventions in agriculture. These, if anything, should alleviate the struggle for existence and especially among farmers. The primitive sickle, flail, and threshing floor were abandoned when the reaper, the self-binder, and the threshing machine were invented. One man could do the work of a hundred. Food would be increased a hundredfold. But the laborers were thrown out of employment, riots occurred, poverty was not noticeably abolished and the wail of the farmers is heard in the land.

In a thousand years hence economists will draw final conclusions from data of our machine age, but at the present time there is no sign that the human race has been freed from tragic struggle or from dire want.

The same situation obtains in the field of medicine. Man and his environment are at deadly grips, or at best in a state of armed neutrality. Man is an invader. He must wrest his living from his surroundings, and these are filled with multitudes of enemies, poisons, and destructive forces, and whenever weakness in his skin, blood, lungs, or in any other organ, presents an opportunity to the lurking bacteria entrenched at the very portals of life's citadel, the battle is on. This balance of power is the very status quo of every living organism whatever its standing from the lowest to the highest.

Knowledge is fragmentary and contradictory and especially is this so of attempts to reach fundamental truths. Notwithstanding Mr. Euclid to the contrary, straight



lines curve and parallel lines meet, says Mr. Einstein. Free will and predestination continue their dispute, absolute justice and mercy have not been reconciled, and philosophy is confronted with its own peculiar predicament. The humanitarian factor in life rises like a huge iceberg dead ahead in the course of a speeding ship.

Thousand of physicians give their time, their strength, and their services without thought of compensation, for the relief of suffering, and to save life. The aged and tired physician faces the night and storm along the treacherous mountain trail to the wretched cabin of the mountaineer, and the young interne spends the night to carry a patient through a postoperative crisis. Not hope of reward here or hereafter, not even the peace of mind that smoothes their pillows, but the humanitarian urge to relieve suffering and restore health is the inherent impelling force.

As to the origin of the humanitarian there is wide difference of opinion and much acrimonious disputation. A rare and mysterious visitor like Poe's raven, it may have been driven by adverse winds to these inhospitable shores from the golden gates and gardens of the Hesperides.

It may have been grafted upon the wild and thorny human tree by some beneficent extramundane power. However, although the evidence is not conclusive, it is very suggestive that the humanitarian motive and the physical and psychological faculties may have evolved from potentialities inherent in the primordial living plasma.

Whatever its origin, however incompatible with the struggle for existence, the fact remains that humanitarianism is a power in public opinion, a moulder of ideals, and a director of human actions. Not only this, but it is becoming more and more evident and general in all civilized countries. As compared with such attributes as fear, anger and intelligence, humanitarianism is a recent acquisition. It is immature, inconstant, irregular, and unreliable; but full of power, enthusiasm, and promise. Like Hercules, on occasions it sallies forth and accomplishes heroic deeds.

From its earliest infancy, humanitarianism has been entrusted to physicians to such an extent that it has taken its place as a permanent institution in the household of medicine. Nearby are the hovels and homes

of poverty and sickness, of suffering and want, of the crippled and incapacitated, the needy and neglected. The physician with a national reputation and the destitute sick are neighbors in the better sense of that word. Through arduous effort he has saved their lives and restored their health, and by their faithful coöperation and confidence they have contributed very largely to his progress and success. The poor have always supplied the world's clinical material and in return have received medical care. But the physician has received much more than this. He has obtained a wider human understanding, broader sympathies, a keener and a kinder insight into the perplexities and tragedies of life.

There is no doctor who has sweat blood and dragged a patient from the jaws of death but is thereby changed and made better. Paradoxical as it may seem, the more disinterestedly the doctor has faced and labored for his patients the less he feels the burden of his own tragedies.

After all, in a sense, medicine is a losing game. In spite of every therapeutic expedient, doctor and patient alike fall victim to the grim reaper. *Palida mors aequo pede pulsat pauperum tabernum regumque turris*. The concrete structures of his hands outlive him.

Probably nothing on earth builds itself into the structure and development of the human race more permanently than does the humanitarianism of medicine. The good that doctors do may be perpetuated down through the generations that follow.

Notwithstanding the appeal of humanitarianism, the struggle for existence is still to be reckoned with, the doctor still must earn his bread by the sweat of his brow. Believe it or not, it frequently happens that the doctor who gives most freely is the one who is the most prosperous. A solution of this paradox is beyond the scope of this paper. But it may be said that a demonstration of unselfish devotion to the interest of patients is a powerful factor in the promotion of a doctor's success, financial and otherwise. This fact is commonly acknowledged, and there are hundreds of well known illustrations. Medicine owes its enviable place in public opinion largely to the generosity and devotion that physicians throughout the ages have manifested in their free services to indigent patients.

But humanitarianism alone will not cure patients, nor will it alone inspire confidence in them. There must be the application of thorough and sound scientific medicine. The physician must know his work and apply it with assiduity. He must have prepared himself with long years of arduous labor. He must continue to keep himself abreast of the medical progress of his day and he must give his time and energy without reserve to the task before him. He has to grapple with man's greatest enemy, a deadly competitor. At the same time he maintains a more friendly competition with his fellow practitioners. And, therefore, even the humanitarian physician finds himself and his progress in the midst of the some tragic struggle that began "when the fish and the tadpole in the paleozoic time, side by side with the ebbing tide, skittered in ooze and slime."

In the domain of philosophy there is little or no reason to believe that evolution or progress can continue except through struggle and tragedy. At present there seems to be no shortage of these conditions.

From the foregoing postulates and premises there are two conclusions that should be emphasized—laws, ordinances and other forms of control and regimentation should be restricted to measures for the security and liberty of individuals in the exercise of their capacities. Beyond this, governmental intervention, however beneficent its intent (*e.g.*, dole, welfare activities, etc.), may become pernicious. However inspiring and necessary material advancement may be, it would appear from the history of the human race that improvement in the standard of living and the progress of civilization will not consist of this form of advancement nor of increased leisure, feasting or other forms of luxury.

## NORMAL NUTRITION IN CHILDREN

HARRY C. METZGER, M.D.†  
DETROIT, MICHIGAN

Adequate nutrition in children depends on several factors: 1. The proper ingestion of food. 2. The proper digestion and absorption of food. 3. The proper utilization and excretion of the various food elements. These various factors may be affected or disturbed through organic or functional causes; the former may depend on the presence of infections or mechanical causes, the latter on overactivity of body or mind or on poor dietary habits.

Malnutrition in children is a symptom-complex indicating a transition from the normal health. It may be characterized by a failure to gain in weight or an actual loss in weight. The physical development of a malnourished child usually becomes defective. The musculature becomes flabby, the bones are soft and brittle, the abdomen is prominent, and the intestines become sluggish. Nervous symptoms in these children are usually dominant. The child is either irritable and hyper-active or dull and apathetic. As a baby, he usually fails to progress normally, such as sitting up late or walking and talking late in life. The baby usually has a lower power for the digestion of foods, and his poor assimilation of food results in frequent attacks of indigestion and diarrhea

and a chronic poor appetite. He usually develops a secondary anemia, sleeps poorly, and presents the picture of being chronically fatigued. Such children usually have poor resistance to infection and are ever susceptible to upper respiratory infections. In older children we have developed faulty postures due to the poor tone of the muscles, also secondary anemias, and frequent gastro-intestinal upsets due to the faulty digestion of food. In these older children we also see such nervous manifestations as bed wetting, nail biting, teeth grinding, extreme irritability, and a tendency in general not to get along with children.

Thus we can readily understand that it is necessary to study the whole of a child's life in order to determine the primary factors involved in malnutrition. We must first exclude all constitutional or local dis-

†Dr. Metzger specializes in Pediatrics and is connected with the following hospitals and clinics: Auxiliary Pediatric Staff, Grace Hospital; Junior Attending Pediatrician, Woman's Hospital; Attending Pediatrician, North End Clinic; the Detroit Jewish Children's Home, the Out-Patient Department of Highland Park General Hospital, and the Children's Hospital. He is a graduate of the University of Michigan, June, 1924.



eases in the child. There are mechanical factors that alter the normal nutrition of a child, including enlarged tonsils, nasal obstruction, due to enlarged adenoids or defects in the nasal septum itself, and poor teeth. There are physical conditions which lessen the voluntary intake of food, such as chronic nasal obstruction, poor vision, or impaired locomotion. Focal infections may impair the normal nutrition of a child, namely, abscessed teeth, chronically infected tonsils, enlarged cervical glands, nasal obstruction with resultant sinusitis, and pyelitis or chronic infection in the kidney pelvis. Chronic diseases, as tuberculosis or syphilis, will undermine a child's nutrition. Further, any of the childhood diseases, particularly whooping cough, measles, scarlet fever, or diphtheria, may have a permanent effect on the normal development of a child. Finally, repeated, intercurrent infections, as tonsillitis, bronchitis, or cervical adenitis, may permanently impair the nutrition in a child.

There are metabolic diseases which will alter the growth and development of a child. In recent years we have learned a great deal about the glands of internal secretion, namely, the thyroid gland, the pituitary, the thymus, the parathyroid glands, the adrenals, and the sex glands, all of which regulate and control body growth. Further, these glands apparently have a great deal to do with the assimilation of the various food elements, particularly the minerals, fats, and carbohydrates. The cause of various body builds, that is, the long, thin, asthenic type of person, the broad, stocky, sthenic type of individual, and finally the short, obese, or hyper-sthenic type of person is probably explained by the faulty function of the various glands of internal secretion. However, we do still recognize hereditary constitutional types of individuals with apparently normal functioning endocrine glands, such as the infantile type of child who remains underdeveloped physically and mentally, with apparently normal functioning glands of internal secretion. Diabetes and nephritis also belong to the group of metabolic diseases and handicap the normal growth and development of the child.

Among the functional causes which impair the normal nutrition of a child, the most prevalent causative factor is faulty hygiene. Proper health habits are essential to

normal nutrition. Regularity of feedings, adequate fresh air, sufficient sleep, proper activity, daily baths, daily stools, and good cheer make for the normal hygiene of a child. These health habits are as important in older children as in infants and the preschool child, and the laxity of parents in requiring such habits in older children probably explains the cause of many cases of malnutrition in children of school age. Improper health habits in children are frequently caused by faulty examples set by their adult associates. This applies particularly to food habits. Adults have a tendency to develop food consciousness in children with an ultimate negativistic attitude in the child towards other things. This negativism reveals itself in the form of anorexia, chronic or recurrent vomiting, temper tantrums, and in older children psychic disturbances with inability to get along with other children and frequent failure in school work. Thus the establishment of faulty food habits in the infant and young child may seriously handicap such a child for years to come.

Finally, the development of a well nourished child depends directly on supplying the proper food elements. Only in recent years have we learned that supplying carbohydrates, proteins, fats, and minerals in adequate caloric amounts is not enough. We have come to realize that we must supply certain vital food elements in the diet of a child to promote normal nutrition. We call these elements vitamins. The various nutritional diseases, as rickets, scurvy, beriberi, pellagra, and xerophthalmia, have almost been abolished today, due to our modern knowledge of vitamins. We recognize in general five distinct vitamins, namely, Vitamins A, B, C, D, and E, Vitamin B being divided into two separate divisions called B<sub>1</sub> and B<sub>2</sub>. Vitamin A is considered the growth vitamin; it is found particularly in cod liver oil, egg yolk, beef liver, spinach, carrots, prunes, butter, and whole milk. Vitamin B regulates the normal functioning of the nervous tissue and is found mainly in whole grain cereals, yeast, liver, peas, beans, spinach and whole milk. Vitamin C controls the normal development of the endothelial cells, the lack of which causes scurvy, manifested by hemorrhages from the gums and into the bone tissues. It is found mainly in orange juice, tomato juice, lemon juice, pineapple juice, and less abundant in

spinach, rutabagas, peas, strawberries, bananas, and apples. Vitamin D regulates the mineral metabolism of the body and prevents rickets. It is found particularly in cod liver oil, halibut liver oil, salmon oil, butter fat, egg yolk, and whole milk. Vitamin E controls fertility and lactation in the female and to a less extent controls the spermatozoan development in the male. Vitamin E is found abundantly in wheat germ oil, lettuce, corn oil, whole grains and all leafy green vegetables. Vitamin B<sub>2</sub>, or, as it is sometimes called, Vitamin G, controls growth and prevents the disease called pellagra. It is found abundantly in egg yolk, kidney, liver, yeast, spinach, and whole milk. Therefore, supplying the proper vitamins in conjunction with an adequate caloric diet, consisting primarily of whole milk, eggs, whole grain cereals, green vegetables, fresh fruits, meats, fowl and sea foods will go a long way in the development of a well nourished child.

In conclusion, normal nutrition in children is dependent on various factors. Only

through repeated and frequent physical examination of infants and children can physical defects be discovered and corrected at an early date. Likewise, foci of infection and disturbances of the glands of internal secretion should be detected early in life and corrected wherever possible. The various childhood diseases can be prevented or greatly ameliorated today, so that permanent damage need not result from them. Only through the education of mothers can we hope to supply the proper hygienic environment for the growing child. Children should be taught from early infancy to eat the proper foods, particular attention being given to the vitamins. If proper health habits are once well established in the infant and preschool child, they become a matter of routine in the older child. Only through the coöperative efforts of parents, teachers, and physicians will the vast army of malnourished and underdeveloped children be cut down so that society in the future will not be handicapped by adults who are mentally and physically retarded.

## THE DOCTOR AND MALPRACTICE

WILLIAM J. STAPLETON, JR., M.D.†

Secretary of the Medico-Legal Committee, Michigan State Medical Society  
DETROIT, MICHIGAN

Ignorance of the law excuses no one. This legal maxim applies to doctors as well as to the laity. In these days the malpractice "racket" is abroad in the land. It behooves every doctor to know his rights and liabilities. In order that doctors may acquaint themselves with the law in relation to medicine, it is the purpose of the Medico-Legal Committee of the Michigan State Medical Society to have articles appear in the JOURNAL from time to time regarding this most important matter. As a preliminary it is suggested that physicians avail themselves of books and other material relating to medico-legal matters.

We suggest a reading of the cases presented each week in the *Journal of the American Medical Association*. The American Medical Association have also published a large volume entitled "Medico-Legal Cases," Abstract of Court Decisions—1926-1930, which is invaluable. We would also suggest the reading of the Annual Report of the Medico-Legal Committee which is published in the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY.

Among the books which will be of interest are the following:

Courts and Doctors, by Lloyd Paul Stryker, published by the MacMillan Co., New York, price \$2.00. This book contains authoritative information and discussion on medico-legal questions based on the author's long experience in handling legal problems affecting the medical profession. For many years he was general counsel for the Medical Society of the State of New York.

The Doctor in Court, by Edward Huntington Williams, M.D., published by the Williams and Wilkins Co., Baltimore, Md., price \$2.50. A book of Experience of the Expert Medical Witness, invaluable to the

†Doctor Stapleton is assistant dean of Wayne University Medical School. He is also secretary of the Executive Board of Medical Defense, Michigan State Medical Society.



physicians who may be called to the stand, and presenting curiously interesting side-lights upon the legal and judicial practice, with an appendix in expert testimony by Charles W. Fricke, Judge of the Superior Court of Los Angeles County. An interesting book.

Doctors and Juries, The Essentials of Medical Jurisprudence, by Humphrey Springstun of the Detroit Bar. Published by P. Blakiston's Son and Co., Inc., Philadelphia, price \$2.00. This little book by one of our Detroit lawyers I can heartily recommend. It should be read by every physician. There is no book published that I know of that has all the essentials so compactly arranged. Buy it because of the wealth of information you will receive.

Medical Men and the Law, by Hugh Emmett Culbertson. A modern treatise on the Legal Rights, Duties and Liabilities of Physicians and Surgeons; is a larger book that I recommend very highly. Published by Lea and Febiger, New York.

Medical Jurisprudence, by Elmer D. Prothers, B.S., LL.B. Published by the C. V. Mosby Company. A statement of the law of Forensic Medicine; is an excellent small textbook.

Medical Jurisprudence, by Carl Scheffel, Ph.B., M.D., LL.B. Published by P. Blakiston's Son and Co., Inc., Philadelphia; is the book we have been using the last two years in our course in the Medical Department of the Wayne University. I can recommend it highly.

There is also a series of pamphlets issued by some of the insurance companies doing malpractice business that are very good. The title of one is "The Doctor and the Law." I will be glad to give the name of the company to any who inquire. The name is not given because it might be thought that the writer was advertising the said company. If our doctors will get one or more of these books and read them I am sure much good will result. The Medico-Legal Committee is ready at any time to answer questions or have matters referred to its attorney for consideration and reply.

### PNEUMOCONIOSIS

The Bureau of Mines has recently issued a statement reviewing the literature on the effects of breathing dusts, especially silica dusts. Two further reports dealing with prevention and treatment of dust diseases and some of their economic and legal aspects in industry are to appear later. The material in the report is extensive and few general conclusions are drawn. It is fairly safe to infer, however, that the silicotic lung is more susceptible to bacterial infection than the average lung. This is probably due to the irritation of the respiratory tissues by the inhaled dust particles, which weakens the mucous membranes and renders them susceptible to infection. The toxic influence of certain inorganic dusts on the tissues may be a contributing factor. There are almost as many classifications of stages of silicosis as there are studies of the subject. Thus, the Committee on Standard Practices in Compensation of Occupational Diseases of the American Public Health Association describe three arbitrarily divided stages. Pancoast and Pendergrass suggest the following: (1) peribronchial-perivascu-

lar-lymph node predominance type, (2) early interstitial predominance, (3) advanced interstitial predominance, (4) nodular predominance and (5) advanced diffuse or terminal fibrosis. A detailed statement of occupation is important in diagnosis. The mere fact that a man is a miner has slight, if any, value. The cardinal physical observation in silicosis is diminished chest expansion. It is generally accepted, however, that the roentgenogram offers the best and most reliable indication of the lung changes that occur in silicosis, particularly in the early stage. Finally it was agreed at the International Congress on Silicosis in 1930 that, to produce the pathologic condition, silica must reach the lungs (1) in a chemically uncombined condition, although the dust inhaled may be either a natural mixture of silicon dioxide with other dusts, such as occurs in granite, or an artificial mixture, such as scouring powder; (2) in fine particles of less than 10 microns in diameter, and (3) in sufficient amount and over a certain period of time, the latter two factors being reciprocal variants. The minimum of these two factors has not yet been determined—*Jour. A. M. A.* Editorial.

# THE JOURNAL

OF THE

## *Michigan State Medical Society*

---

### PUBLICATION COMMITTEE

J. EARL MCINTYRE, M.D., Chairman.....Lansing  
 A. S. BRUNK, M.D.....Detroit  
 HOWARD H. CUMMINGS, M.D.....Ann Arbor

---

### Editor

J. H. DEMPSTER, M.A., M.D.  
 5761 Stanton Avenue, Detroit, Michigan

---

### Business Manager

B. R. CORBUS, M.D.  
 2642 University Avenue, St. Paul, Minnesota, and  
 313 Metz Building, Grand Rapids, Michigan

---

AUGUST, 1935

---

## EDITORIAL

### THE ANNUAL MEETING

The annual meeting of the Michigan State Medical Society will be held as announced at Sault Ste. Marie, September 23 to September 26. There will be a change in the usual routine of the Scientific Sessions. The House of Delegates will meet on the afternoon of Monday, September 23. With the exception of the section on ophthalmology and otolaryngology all scientific sections will be held in general sessions beginning Tuesday evening at eight o'clock.

Wednesday evening will be the president's night, when the president's annual address will be presented. The Andrew P. Biddle Lectureship will be inaugurated.

An array of outside talent of nationally known surgeons and clinicians has been secured for the general sessions and the Andrew P. Biddle oration. The program will also include many men from our own state. No effort is being spared to make the 1935 annual meeting one of the most interesting and profitable that has been held in recent years.

### RADIOLOGIC EXHIBIT

Among the scientific features of the annual meeting of the Michigan State Medical Society at Sault Ste. Marie will be a unique exhibit by the Michigan Association of Roentgenologists. This will include diagnostic films as well as specimens, radiographs and photographs illustrating x-ray and radium therapeutics. The exhibit will be in the fullest sense educational, inasmuch as an effort will be made to present, not the rare and the unusual, but findings in the routine of practice. The films will be reduced to a uniform size and the arrangement will be such as to facilitate inspection by the entire membership of the society present, for roentgenology is not in any sense a regional specialty. The exhibits should, therefore, interest all.

Enabling by-laws will be sought from the House of Delegates to authorize the founding of a section on Roentgenology and Radiotherapy. There is a great deal to commend such a movement. Both in its diagnostic and therapeutic phases, roentgenology or radiology, which includes also x-ray and radium therapeutics, concerns almost all branches of medicine and surgery. The effectiveness of massive dose therapy is being widely recognized by the profession. A clearer understanding of its scope and limitations on the part of the internist and the surgeon who refer cases to the radiotherapist is necessary if the best results are to be obtained.

The roentgenologist is a consultant. Instead of functioning as pathologist in the examination and interpretation of specimens, he comes in direct contact with the patient whom he examines in a particular manner, and correlates his findings with clinical findings of the referring physician or surgeon. Each requires the experience of the other in the interest of the patient, and the harmonizing or correlation of data obtained by each in examination is what is meant by consultation.

There will be, also, members of the Michigan Association of Roentgenologists to answer questions or to discuss the various lesions illustrated by the exhibits. This bids well to be one of the most attractive features of the annual meeting, which along with the excellent scientific program will well repay attendance.



## MEDICAL ECONOMICS

The two medical colleges of this state have signified their willingness and intention to establish chairs in Medical Economics. This is interesting. Medicine has always had its economic phase though in the past it has not assumed any systematized form. A new subject to be taught as an entity of the medical curriculum, it will doubtless take some time before it assumes a definite scope.

Whether it will be taught by a physician or by a teacher of economics we have not been informed. One medical school in the east evidently feels that the subject is best taught by a professor of economics, who accordingly has been sent about the United States visiting medical schools and physicians in private practice and hospitals to acquaint himself with medical economics throughout the country. This seems wise. We have had occasion to review Medical Economics by Dr. A. C. Christie of Washington, the only special work on the subject we have seen; our impression was favorable. Though brief, it will serve as a basis for instruction.

One difficulty with the subject is that it invades the emotional field. We all have our own views on it, and hold them tenaciously, since our livelihood is so intimately concerned; we do not readily give them up as we do a purely scientific belief if it is proved incorrect. The salaried professor may not see things in the same way as the practising physician who feels his independence threatened by possible hastily considered change.

## DOCTORS AS LEGISLATORS

Within the past year several elections have taken place in Canada. A fact that should not be without interest to the medical profession is the number of physicians who have been elected to the various provincial legislatures. In Ontario, there are twelve doctor members of parliament. The latest province to hold an election is New Brunswick, when five physicians were elected. Politics (using the word in its best and original sense) of the present and future will be concerned to a large extent with matters of public and personal health so that a good leavening such as a dozen physicians could afford as members of the

state legislature, could not but redound to the best interests of the body politic.

The importance of government in a democracy cannot be too strongly emphasized, and of equal importance is an enlightened public. In 1867 when the suffrage in England was extended to all males of twenty-one years and over, one statesman, fearful of the result, exclaimed, "We must educate our masters." Through the joint committee on public health education of Michigan an effort has been made to educate or, perhaps better, to inform the voter and future voter in regard to the essential facts underlying the science of medicine as taught in our medical schools. Many must yet be reached if resort to self medication and cultism is to be reduced, and if there is to be greater appreciation of what scientific medicine offers.

There seems a more or less close relation between public enlightenment in the basic facts and principles of disease cure and prevention and the assistance a few medically trained independent representatives in the legislature might render to the public at large.

---

## MEDICAL PAPERS

Medical contributions have increased in quantity during the past decade. It is a healthy sign since it is to a large degree an indication of greater personal attention to one's work. Concurrent with the increase in the number of papers offered for publication is the growth of post graduate teaching. Doubtless many papers have been written with no thought of publication. The writer always benefits by committing his thoughts to writing. There is nothing, not even talking it over with someone, that so clarifies one's thinking as the use of the pen or pencil. One carefully prepared paper a year should be the aim of every doctor. Such a paper if not published, if born to blush unseen, is a veritable graduate course on the subject, to the person who puts into it his best efforts. It need not be long. The greater one's mastery of his subject, the fewer words he requires to express his views.

There should be some reason for one's effort. If he has nothing to say, it is better that he not attempt to say it. His contribu-

tions should grow out of some experience or method or unusual case. Case histories carefully prepared are, as a rule, contributions worthwhile. An occasional review of the medical literature on a certain subject may be also of value. A case well worked up, particularly if it is outside the routine of practice, is of value if presented in readable form, which many are not. It is a common experience to receive a paper for publication in which the author's introduction and comment are prepared with care, but in which his illustrative case or cases are thrown together in the crudest fashion, with essentials and non-essentials presented without discrimination and with many abbreviations unintelligible to even the average medical reader. As an effort towards the improvement of medical literature, we would suggest fewer papers and those prepared with emphasis upon the case history, that is, history of the medical or surgical case, which stresses not the commonplace so much as the out-of-the-ordinary. The so-called "textbook" paper has no demand with the keen competition for space in our national, state and independent medical periodicals.

### THE NEW AND THE OLD

The *New York State Medical Journal* takes great satisfaction over the election of a member of the profession of the state of New York as Speaker of the House of Delegates of the American Medical Association. The *New York State Medical Journal* has paid Dr. Van Etten a glowing tribute:

For a long time New York has been proud of Dr. Nathan Van Etten. His wise counsel, his calm judgment, and his good humor, in addition to his studious efforts to grasp the current topic, are characteristics which have endeared him to us who have been privileged to work with him. His consistent and persistent stand against the temporary trend of the day to stampede organized medicine into socialized medicine, and his sturdy defense of the general practicing physician are well known in this, his home state. New York is happy for the distinction he has brought the Medical Society of the State, whose President he has been. In his elevation to the Speakership, we find justification and ratification of his position on pending social medical questions.

Having served the profession so well, he is worthy of the high honor which the delegates of the A.M.A. have bestowed upon him. We venture to predict that he will rule the House less through the technicalities of parliamentary law than by the magnetism of his personality.

Dr. Van Etten succeeds Dr. F. C. Warnshuis. For over twenty-one years secretary of the Michigan State Medical Society, Dr. Warnshuis has held the position of speaker

of the House of Delegates of the American Medical Association for a period of eighteen years. This is a long time to hold any one office and the fact that Dr. Warnshuis occupied the position so long is *prima facie* evidence of service rendered, his executive ability and his mastery of the rules of parliamentary procedure.

### Our Queer Anatomy

Where can a man buy a cap for his knee?  
Or a key for a lock of his hair?  
Can his eyes be called an academy,  
Because there are pupils there?

What jewels are found in the crown of your head?  
What crosses the bridge of your nose?  
Do you use, in shingling the roof of your mouth,  
The nails at the end of your toes?

Can the crook of your elbow be sent to jail?  
If so, what did he do?  
Where can you sharpen your shoulder blades?  
I'm sure I don't know, do you?

Can you sit in the shade of the palm of your hand  
Or beat on the drum of your ear?  
And if the calf of your leg ate the corn off your  
foot,  
Why can't we have corn on our ear?

—ANON.

### OTOSCLEROSIS IN IDENTICAL TWINS

George E. Shambaugh Jr., Chicago, adds three more instances to the two instances reported previously of otosclerosis in identical twins. He states that if the premise were strictly correct that the hereditary anlage is exactly equal in a pair of identical twins, then one could say with assurance that there are external influences which can affect the age of onset and rate of progress of clinical otosclerosis, and this would be saying a great deal. However, there is one disturbing fact that must be taken into account and that is that identical twins develop from the same egg, but from different halves of the egg, and their hereditary environment may differ slightly just as the two halves of any person are slightly different. Thus, otosclerosis often begins first in one ear and may occasionally become very advanced in this ear before the onset of progressive deafness in the opposite ear. The difference in the twins may correspond only to the difference in the two ears of any one with otosclerosis. However, the fact that the lesion developed first, in every instance, in the twin who was much more susceptible to head colds is at least suggestive evidence that head colds are an activating influence on otosclerosis. On the basis of the observations in identical twins head colds apparently have an activating influence on otosclerosis similar to the influence of pregnancy. This conclusion coincides with clinical experience in the majority of patients with otosclerosis. It does not seem to be due to direct extension of inflammation through the eustachian tubes, though this possibility must be considered. The effect may be entirely systemic, by blood stream transmission of toxins. Further observation of otosclerosis in identical twins will confirm or refute these conclusions. Meanwhile, one can feel justified in any reasonable measures to reduce the susceptibility to head colds in persons with otosclerosis. (*Journal A. M. A.*, April 6, 1935.)



## A MOMENT OF MEDICAL HISTORY

W. T. D.

### THE DEVELOPMENT OF THE OPHTHALMOSCOPE

The ophthalmoscope which was introduced to ophthalmology and medicine by Hermann von Helmholtz was the outcome of purely academic researches on a minor, but vexing, problem of optics. Why did the pupils of the eye ordinarily appear black, and why, under certain circumstances, did the eyes of some animals appear luminous? Anatomical studies on the eye afforded no solution, and physiological experiments on conditions favoring luminosity were slow to accumulate.

From antiquity, the glow appearing in the eyes of cats and other animals was thought to be an inherent characteristic associated with the physiology of the eye. The eyes were supposed to emit luminous fire during certain emotional states. Normally, however, the pupils appeared dark.

As early as 1704, Jean Méry made a significant observation on the eye of the cat. By immersing a cat in water, he found that the pupils of the eyes became dilated following the suspension of respiration. On looking at the eye, he noticed that the pupil, instead of appearing black, became transparent, and that he could look into the interior of the eye to see the entrance of the optic nerve and the blood vessels of the fundus. Méry incorrectly believed that the surface of the cornea of the eye was uneven or rough, and that a layer of water filled the irregularities and made the cornea transparent so that the interior of the eye could be seen. The correct explanation, however, appeared five years later with de la Hire, who pointed out that the normal refraction of the cornea was prevented when the latter was covered by water. Rays of light leaving any part of the fundus of the eye were not refracted by the cornea, but were allowed to diverge much as though there were no refractive media involved.

During the later eighteenth and early nineteenth centuries, cases were reported of human eyes which presented a luminous appearance. Fermin, in 1796, recorded such a

condition in the eye of an Ethiopian albino, and Scarpa, in 1816, described a similar condition in an eye having a diseased fundus. In 1817, Beer also described a case in which the eye showed luminescence. Because of the iridescent character of the glow which resembled that of a cat's eye in twilight, he applied to it the term, "amaurotic cat's eye," which has even persisted to the present.

A few years previously, in 1810, Prévost demonstrated that the eyes of animals did not appear luminous in an entirely darkened room. The luminosity was simply the reflection of light which had entered the eye through the pupil and was, in no way, generated by the eye. During the same year, Gruithuisen demonstrated that the reflecting surface of the eye was the tapetum of the choroid layer. Rudolphi showed further that in order to detect the luminous reflection, the observer must place himself so that he looked into the eye in a certain specific direction.

In 1839, Behr studied a case in which the iris was entirely absent and the pupil appeared reddish. He found that the appearance was manifest only when the observer looked into the eye in a direction parallel with the light rays which fell into the eye. The glow of an eye lacking an iris was similar to the pink of the eye of an albino rabbit, in which the iris is transparent.

With increased knowledge about "cat's eye amaurosis," it seemed that there were two types of eyes, those which emitted a glow and those which did not. A rational explanation for the difference was not apparent. The normal human eye did not appear to show luminescence. There was some reason, then, why the pupil seemed black under all normal conditions.

Kussmaul (1845) performed an interesting experiment on an excised eye, which bore on the problem. He removed the cornea, with no change in the appearance of the pupil. He then removed the crystalline lens and immediately the retina and its blood vessels became visible. It was thus evident that the lens, in some way, was responsible for the lack of reflection from the fundus of the eye. When the vitreous humor of an eye was sucked from the globe, the latter collapsed, bringing the lens and retina closer together than normally. The retina was thus brought anterior to the fo-

cus of the lens and could then be seen as if magnified by a convex glass.

Two publications, one appearing in 1846, by William Cumming of the London Hospital, the other in 1847, by Professor Ernst Brücke of Vienna, demonstrated that, under favorable conditions, the normal human eye could be rendered luminous. Cumming placed the person whose eye was to be examined at a distance of ten or twelve feet from a gas light in an otherwise darkened room. When the flame was so shielded that all light, save a beam cast upon the face and eye of the subject, was excluded, the observer could, by placing himself as near the illuminating beam as possible, observe a reddish luminescence in the pupil. This was a reflection from the background of the eye. Cumming noted that a slight movement of the subject's eye changed the luminescence to a whitish tint, the reflex from the optic nerve head. He became convinced that with proper illumination one would be able to look into the fundus of all normal eyes, and that when this was not possible, eye disease was indicated. Cumming used atropin to dilate the pupil in many cases that he studied, finding, in this way, that better images were produced.

Brücke, who had for several years been interested in analyzing the reflection of the eyes of numerous mammals and fishes and the structure of the tapetum, independently discovered the phenomena of Cumming. One time as Brücke was standing in his lecture room between a hanging lamp and the door, he noticed the luminous glow in the eye of a student who was entering the room. The student was not an albino and appeared to have normal eyes. On repeating the observation under various conditions, Brücke found that an arrangement of light and screens, very similar to that of Cumming, gave the desired glow. He also found that by the use of a candle and an opaque screen in a dark room, a luminous glow could be induced in the eye of a patient when the screen and candle were held close to the visual axis of the observer in such a way that the screen shielded his eye from the candle. Brücke, in his publication, recounted an observation of a friend of his, Karl von Erlach, who had at times noted a peculiar glint in the eyes of persons standing in front of him. The lenses of his eyeglasses, which were concave, reflected light

into the eyes of persons in such a way that he could observe a reddish glow in their pupils. This accidental observation of von Erlach embraced the principle which, a few years later, was adapted to the ophthalmoscope.

In 1847, an English mathematician devised an instrument for looking into the interior of the eye, but when the significance of the instrument was not appreciated by the leading English ophthalmologist, Wharton Jones, it was discarded as a useless toy. The instrument, which was constructed by Charles Babbage, "consisted of a bit of plane mirror with the silver scraped off at two or three small spots in the middle fixed within a tube at such an angle that the rays of light falling on it through an opening in the side of the tube was reflected into the eye to be observed, and to which one end of the tube was directed. The observer looked through the clear spots of the mirror from the other end." Since Babbage's instrument was never introduced into ophthalmological practice nor described for several years, it had no vital relation in the sequence of events dealt with here.

The problem of the appearance of the pupil under different conditions was finally solved by Hermann von Helmholtz, who made a complete analysis of the refracting properties of the eye and demonstrated conclusively why the pupil appeared dark under certain circumstances and light under others. Helmholtz found that a model of the eye could be produced by removing the eye lens from the ocular tube of a microscope and placing the tube in an inverted position over a white card with the field lens uppermost. The lens of the ocular represented the crystalline lens of the eye, the ocular tube the globe of the eye and the white card the retina or rear of the eye. In the ocular tube, the length of the tube was equal to the focal distance of the lens. An observer looking through the lens found that it appeared black like the pupil of the normal eye. If the convex lens of the ocular were taken away or if the distance between the lens and paper surface were altered materially, the observer at once saw the white surface of the paper.

The close similarity between the phenomenon exhibited by the microscopic ocular and the human eye suggested that the problem was one of optics. Helmholtz made a



careful and mathematical analysis of the path which rays of light must take in such an optical system according to the physical laws of refraction of light. Rays of light leaving a luminous source passed to the surface of the eye and through the refractive media of the eye in certain fixed directions to reach a focus at a particular spot on the fundus of the eye. Most of the light was absorbed, but some was reflected. Light leaving the surface of the fundus passed through the refracting media of the eye along lines which coincided with the incident rays and came to a focus at a point coinciding exactly with the original light source which gave rise to the reflection on the fundus. The reason, then, that the reflection of light passing into the eye could not ordinarily be observed was that the observing eye could not be placed at the point of convergence of light rays coming from the reflecting center of the retina, since the light source was already at this point.

Cumming's and Brücke's arrangement of light sources and screens and the conditions exemplified in the dilated pupils of the eyes of cats and other animals, as well as the condition in albinos having transparent irides, were now explained. The observer was sufficiently close to the axis of reflection that a slight amount of the reflex could be detected. Helmholtz decided that the optimum reflection could be obtained if the observing eye were located exactly at the site of the illumination which lighted the eye. Once the problem was clearly outlined, a simple optical arrangement offered a solution. If a light source were placed at the side of an eye to be observed, light could be reflected into the eye by means of an obliquely arranged glass plate. That portion of the light which was not absorbed within the eye was reflected from the fundus to the glass plate. A considerable portion of these rays was reflected back to the luminous source while the remainder passed through the glass along the visual axis to be noted by an observer. Through optical laws, Helmholtz had thus confirmed the chance observation of von Erlach.

Using several layers of thin glass plates, Helmholtz observed the character of the reddish reflection of the eye and found that certain details of the interior of the eye were visible. He could see the arteries and

veins of the fundus and the optic nerve head as distinctly as they could be seen in the dissecting room. He found, further, that a concave lens placed behind the mirror-like glass plates brought the retinal images into closer focus. Employing these principles, he constructed an instrument which he called *Augenspiegel* or eye mirror, consisting of small glass plates, actually microscopic cover slips, placed obliquely in a holder the internal surfaces of which were darkened with black velvet. A socket was provided for concave lenses and a handle was attached. With this device, an observer sat close to a patient and reflected the image of the light source into the eye to be observed, the fundus image being apparent to the observer looking through the concave glass. An alternate method of using the instrument, the indirect method, was also suggested. In this, the observer sat at a little distance from the subject and held a convex lens between the *Augenspiegel* and the eye to be observed.

Helmholtz, appreciating the practical significance of his invention, suggested that, with his *Augenspiegel* or ophthalmoscope, pathological changes in the blood vessels of the retina, in the optic nerve head and in other features of the fundus could be studied. The instrument also could be used to detect opacities in the refracting media of the eye and could be used as a method of testing visual acuity and the refractive characters of the eye. About forty years after these studies, Helmholtz stated "all that was original with me in the matter was that I went to ask how the optic images could be produced by the light coming back from the illuminated eye. All my predecessors had failed to put this question to themselves. They had stopped in the middle of their way, instead of going on to the end. As soon as I had answered that question, I saw also how an ophthalmoscope could be constructed and it took me only two days to do it and successfully to experiment with the new instrument."

Probably because of the mathematical treatment in Helmholtz's monograph, medical men were slow to appreciate the significance of the ophthalmoscope for nearly a decade. In the hands of a few ophthalmologists, however, the instrument was modified and found approval.

A few months after Helmholtz's publication, Epkens substituted for the glass plates of Helmholtz a silvered mirror with a small oval of silver removed, through which the observer looked at the fundus. This modification which resembled the earlier instrument of Babbage became characteristic of almost all subsequent models. In the next year, Reute found that a concave mirror was superior to the flat one of Epkens. Coccius, in 1853, devised an alternate arrangement consisting of a plane mirror of glass or metal having a convex condensing lens. A significant addition to the ophthalmoscope was made in 1852 by Rekoss, an instrument maker of Königsberg, who provided rotary discs (Rekoss discs) which contained lenses. By rotating the disc, an appropriate lens could be placed into the optical axis of the ophthalmoscope. In this way the optical variations in the observed and observing eyes could be equated. Numerous other modifications were suggested by Zehender and Jaeger in 1854, Leibreich in 1855, Burroughs in 1856, Nachtet, Demarres, Beale and others. Some of the modifications of transitory importance were binocular devices, stationary instruments and demonstration models with which an instructor and student could view the fundus simultaneously.

In the decade between 1860 and 1870, ophthalmoscopic data on the pathology of the eye accumulated and it was discovered that pathology of the fundus was frequently a symptom of serious general disease. Through the work of von Graef, Allbutt, Hughlings Jackson and others, eye symptoms were discovered for brain tumors, hydrocephalus, epilepsy, Bright's disease, diabetes, anemia and dozens of other conditions. Thus, the ophthalmoscope was introduced to routine medical practice as an important diagnostic aid.

Ophthalmologists improved the instrument for refractive purposes. Numerous ophthalmoscopes were devised, many with differences of only minor importance, a few with changes which were of real value. Loring of New York improved the instrument in three ways. He devised Rekoss discs in which more than a score of convex and concave lenses could be used; he introduced a tilting mirror and a mechanism by which the lenses could be closely approximated to the eye hole of the mirror. Wad-

worth invented an obliquely set mirror which enabled the observer to look straight through the lenses instead of at an angle. A further improvement of the ophthalmoscope was suggested by Denner (1885), who provided the instrument with a minute incandescent bulb placed in the handle so that light could be reflected into an eye. Since the only source of current was a large storage battery, the instrument had the same limitations of portability as earlier models. Crampton developed an instrument having a small battery within the handle. De Zeng modified the instrument, as did Marple, to make the electrical instrument portable and efficient. Since the electrical ophthalmoscope was portable and could be used in any position for bedside practice, avoided glare in the eye of an observer and was easier for beginners to use, it soon became the most important adaptation.

#### INSULOGONIC STIMULATION OF SEXUAL DEVELOPMENT

George A. Williams and Robert L. Williams, Atlanta, Ga., point out that the administration of insulin to a poorly developed nondiabetic girl 8½ years of age resulted in striking acceleration of body growth and sexual development. This was manifested by increase in height and weight, stimulation of the mammary glands, ovaries and uterus, assumption of the adult type of fat distribution, and a growth of fine body hair. Discontinuance of insulin was followed by prompt regression of secondary sexual phenomena. Body growth continued, but at a less rapid rate. Resumption of insulin after a lapse of ten months resulted in prompt reappearance of the sexual phenomena, to regress as soon as insulin was again omitted. (*Journal A. M. A.*, April 6, 1935.)

#### JEJUNAL ULCER

Roscoe R. Graham and F. I. Lewis, Toronto, Ont., base their remarks on jejunal ulcer on their observation of forty-three cases, of which a careful and exhaustive follow up of the patients who have been submitted to a gastro-enterostomy shows a much higher incidence of jejunal ulceration than is usually suspected. A persistent gastro-intestinal disability in a patient who has had a gastro-jejunosomy demands a careful and thorough investigation. Roentgen investigation of such patients is more efficient if the clinician and radiologist co-operate as a team. Jejunal ulceration is a surgical lesion, and operation should be urged as soon as the patient's condition permits, provided the diagnosis is thoroughly substantiated. Block resection of the stomach and jejunum, with end-to-end anastomosis of the jejunum, and either a Billroth I or retrocolic Polya reconstruction of gastric continuity is the ideal procedure. A barium enema should be a routine procedure in the investigation of any patient suffering a gastro-intestinal disability after a gastro-enterostomy. The ideal operation for a gastro-jejunocolic fistula is a block resection of stomach, jejunum and colon, with triple anastomoses, together with a cecostomy.—(*Journal A. M. A.*, Feb. 2, 1935.)



# DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary



THE LOCKS AT SAULT STE. MARIE

## THE 70TH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY

One hundred and fifteen years ago the Medical Society of the Territory of Michigan was founded. Seventy years ago the Michigan State Medical Society, in essentially its present form, came into being. Annual meetings for the discussion of scientific papers and the problems of the profession have been the rule since the Society was first formed. For sixty-nine consecutive years an annual session has been held and the transactions published in full by the Society.

We meet this year in a region still reminiscent of that Michigan so familiar to the founders of this society—historically rich in reminders of a period antedating this—the period of the early French Explorers—of Brule and Nicolet, who knew the Sault in the early 1600's.

To this interesting City on the Locks, the Michigan State Medical Society brings for your instruction and your enjoyment the best talent from its own membership, and from other states, speakers of exceptional ability, famed in their special lines of work, to discuss with you the newer things in medicine, surgery and the specialties in a well rounded program.

Can you afford to miss the unusual op-

portunity to keep abreast of scientific developments?

Your special attention is called to the Wednesday afternoon program—a round table—a student-professor Clinical Pathological Conference where each is given the opportunity and expected to take part in the discussion.

A scientific exhibit—the best the Society has ever put on.

A commercial exhibit—most distinctly worthwhile.

Accommodations? Yes, ample. The Soo has no Atlantic City Hotel but you can be assured of a comfortable bed. If you prefer, you may stay at any one of the many comfortable homes in the city. The claim is made, and well founded, that the Soo is the most hospitable city in the state.

Canada offers you hospitality — The Windsor Hotel or the smaller Algonquin on the Ontario side invite you to take the ten minute ride on the ferry and stay with them.

The Michigan State Medical Society presents its guests:

Dr. John H. Musser, Tulane University, Professor of Medicine.

Dr. George W. Hall, University of Chicago, Professor of Neurology.

Dr. J. C. Litzenberg, University of Minnesota, Professor of Obstetrics and Gynecology.

Dr. John A. Kolmer, Temple University, Professor of Pediatrics.

Dr. Erwin R. Schmidt, University of Wisconsin, Professor of Surgery.

Dr. Harry L. Huber, University of Chicago, "Allergy and the General Practitioner."

Dr. Lester Wieder, Milwaukee, "Common Fungus Dermatoses."

#### The Andrew Biddle Oration

Dr. S. Marx White, Minneapolis, Professor of Medicine, University of Minnesota, ex-President American College of Physicians.

The profession of Sault Ste. Marie has arranged a program for your off hours which guarantees interest and enjoyment. Play golf if you like in America and in Canada. See the beauties of the St. Mary's River with its famed falls and rapids. Renew your early American History by visualizing an historical area, and if or when tired, just sit and watch the big ships pass through the locks.

Make your reservations immediately through Doctor G. A. Conrad, chairman of the Hotels Committee at the Soo, or directly to the Ojibway Hotel on the American or the Windsor Hotel on the Ontario side.

#### OUR EDITOR HONORED

On June 12, 1935, an honorary degree of Master of Arts in Literature and Medicine was conferred on our editor.

"JAMES HERBERT DEMPSTER, Physician, A.B. 1899, Queen's University, Kingston, Ontario, M.D. 1909, Detroit College of Medicine.

"For his literary accomplishments in the field of medicine and medical history as shown in the various books and monographs he has written as well as in his contributions as editor to the JOURNAL of the Michigan State Medical Society, for his many years of teaching, and for the inspiration he has given to so many Detroit young men, the Detroit Institute of Technology confers on Dr. Dempster the degree of Master of Arts in Literature and Medicine."

The above citation well expresses the opinion of Dr. Dempster's many friends in state and country—friends who appreciate his ability, admire his philosophy of life and are proud to call him friend.

#### A SUPPLEMENT TO "AS THE MATTER NOW STANDS"\*

Michigan Crippled Children Commission  
458 Hollister Building  
Lansing, Michigan

July 19, 1935

To the Supt. of Approved Hospitals:  
Under Act No. 274 of 1913, as amended.

#### IMPORTANT NOTICE

Re: Changed Fee Rates

Dear Superintendent:

#### Afflicted Children

The Michigan Crippled Children Commission finds that the legislature of 1935, in the passage of Act No. 94 (Senate Bill No. 277) has created a financial emergency by making no additional appropriation to provide for the additional costs which will have to be paid out of the appropriation, "Medical Care of Children." The Commission has held a series of meetings in the last month trying to find some solution to this problem which is just to all parties concerned. None seems to be available.

Therefore, in order to try to keep the service to Afflicted Children available until the legislature can remedy the present emergency situation, we are suspending the use of our Fee Schedules "A" and "B" indefinitely.

Beginning with July, 1935, bills, you will please bill the Auditor General for Afflicted Children as follows:

*Temporary Schedule "A" for Physicians and Surgeons:* A flat rate of \$1.00 per case regardless of the diagnosis, the treatment or operation rendered, or the length of time the patient remains in the hospital.

*Temporary Schedule "B" for hospitals on the approved list of the American College of Surgeons:* A flat rate of \$4.00 per day to include all services.

*For all other hospitals approved by the Commission:* A flat rate of \$3.25 per day to include all services.

*Note:* A hospital charge limit of \$12.00 will be allowed for tonsillectomy and of \$8.00 for circumcision.

The letter sent you by the Commission on June 10, 1935, concerning these rates contained a temporary fee schedule "A" for physicians and surgeons which was effective for state cases in the hospital only between May 29, 1935, to June 30, 1935, inclusive.

No change has yet been made in the Fee Schedules "C" and "D" for crippled children under Act No. 236 of 1927.

Respectfully submitted,

MICHIGAN CRIPPLED CHILDREN COMMISSION,  
Per HARRY H. HOWETT, Secretary-Treasurer.

\*See July Journal.



## COUNTY SOCIETIES

### MONROE COUNTY

On May 23, 1935, Monroe County Medical Society entertained the Lenawee, Washtenaw, and Livingston County Societies at the annual district post-graduate conference. The committee in charge of arrangements were Doctors R. J. Williams, M. A. Hunter and W. W. Bond.

The scientific session was held at the Masonic Temple, Monroe, beginning at 2 P. M. In the absence of President J. J. Siffer, Dr. P. D. Amadon, vice president, presided. The program was as follows: Dr. John L. Law, "The Care of the Child from Infancy to School Age"; Dr. J. H. Maxwell, "Recognition and Management of Accessory Sinus Disease"; Dr. Stanley Goldhammer, "Diseases of the Blood and Blood-forming Organs." All the speakers were from the University of Michigan. Dr. Goldhammer took the place of Dr. Raphael Isaacs, who was unable to be present. There was an attendance of about forty at this session.

At the time of the scientific session, the doctors' ladies met at the Monroe Country Club, some playing bridge and some golf. Mrs. J. J. Siffer was in charge of this social meeting.

At 6:30 P. M., the doctors joined the ladies at the Country Club for dinner. A delicious meal was served. The Monroe County Society furnished beer, which was served before, during and after the dinner.

The speaker of the evening was Dr. Howard McCloskey (Ph.D. of the Department of Psychology, Ann Arbor), who spoke on "Growing Up Emotionally." Mrs. McCloskey's talk was received very enthusiastically.

There were fifty members and guests present for the dinner and the evening.

FLORENCE AMES, M.D.,  
*Secretary.*

### HOUGHTON COUNTY

The Houghton County Medical Society held its regular monthly meeting June 4, with a large attendance. The meeting was interesting and instructive, being devoted to the presentation of two papers. Dr. Alfred La Buie read a paper and presented cases on the subject of "Gastro-intestinal Surgery." Dr. H. M. Joy presented a paper on "Undulant Fever" and reported a case under treatment.

The July meeting of the Houghton County Medical Society was held at the Miscowaubik Club, Calumet, Tuesday, July 2, 1935, at 8:30 P. M., with a dinner preceding at 6:30 P. M. Dr. Vernon L. Hart of Minneapolis, Minnesota, was the speaker of the evening and presented the subject "Mechanical and Physiological Rest in the Treatment of Diseases and Injuries of the Extremities."

W. T. S. GREGG,  
*Secretary.*

### POST GRADUATE CONFERENCE

The 13th Councilor District held a Post Graduate Conference at The Hotel Perry, Petoskey, Michigan, July 11, 1935, with a gratifying attendance and the following program:

Cancer of the Gastro-intestinal Tract—Frederick A. Collier, M.D.

Anemia—Cyrus C. Sturgis, M.D.

Tumors and Cysts of the Head and Neck—A. C. Furstenberg, M.D.

Medical Education and Economics—J. D. Bruce, M.D.

## MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner  
LANSING, MICHIGAN

### New Members of State Council of Health

Two new members have been appointed to the State Council of Health by Governor Fitzgerald. E. A. Schilz, M.D., of Grand Ledge, succeeds William E. McNamara, M.D., and U. G. Rickert, D.D.S., of Ann Arbor, succeeds Chalmers J. Lyons, D.D.Sc., deceased. Dr. Schilz is a practicing physician, and Dr. Rickert is Professor of Materia Medica, Therapeutics, and Hygiene, in the School of Dentistry at the University of Michigan.

### Another Lesson in Typhoid

Although the incidence of typhoid fever has been so decidedly on the downward trend for a generation, yet in spite of this the disease continues and its complete eradication is difficult. At the present rate of decline it has been estimated that in another 25 years typhoid may become so rare that there will occur years with no cases.

The present death rate of typhoid fever in Michigan is approximately one per 100,000 and the number of cases reported for several years varies from 300 to 500. Outbreaks more or less extensive continue to appear at intervals. Sometimes the occurrence of an outbreak in a community usually (but not always) teaches that community a lesson, but such outbreaks occur so seldom in any one community that it is hard for all of the state to profit thereby.

There has recently occurred a small outbreak of 8 cases of milk-borne typhoid in a Detroit suburban area. A farmer whose entire milk trade consisted of three families was found to be a typhoid carrier after typhoid had appeared among his customers. In the four families, including the customers and the farmer's own household, there occurred the eight cases of typhoid. It is hardly necessary to say that the milk was not pasteurized. Another lesson to be gained from this incident is that the farmer has for a year or more displayed a sign in front of the house advertising his milk to tourists.

Another group of 8 cases of typhoid occurred recently in a different locality. All of these were in one family or their close relatives and seven of them appeared to be secondary cases infected by the first case. There certainly is little excuse for such an outbreak. Nevertheless we cannot place all of the blame on any one individual but rather a number of individuals are at fault together with failure on the part of the public to recognize the need of an efficient health department. The first case did not receive medical attention promptly. It was not diagnosed nor were the secondary cases diagnosed early. There was no prompt reporting of the circumstances to the local health officer or the State Health Department. There was no full-time or trained epidemiologist as a local health officer and consequently no adequate attention given to the outbreak until it finally came to the notice of the Michigan Department of Health. It is much better for physicians to report suspected cases to the local health officer, which cases may later be proved to be something other than typhoid. Any efficient health officer will be glad to have suspects reported and will not consider such as cases except to take precautionary measures until the diagnosis is established.

Typhoid incidence is greatest from August to October. It is particularly at this season of the year that physicians should be on the alert.

## COMMUNICATIONS

To the Editor, Journal,  
Michigan State Medical Society:

Our attention has been drawn to the May issue of your valuable journal and particularly to an article on page 268 by Dr. Lewellys F. Barker of Baltimore, Md.

While it is hardly within our province to query the conclusions of a medical man, we do, however, take the exception to statements Dr. Barker makes on page 275 which we regard not only as tendentious, but as definitely anti-Semitic propaganda. The statement regarding inferior children in New York is certainly most misleading. Dr. Barker states that the majority of the defectives and chronic treatments in the wards of the Department of Welfare are the offspring of foreign born parents. He neglects to state that in New York City the majority of all children are of foreign born parents. The World Almanac for 1935 gives the number of families as of 1930 as 1,722,954. Of these, 708,941 are native born and 932,829 are foreign born. Obviously, the majority of children in New York, therefore, are the offspring of foreign born parents. Therefore, Dr. Barker's statement seems to us wilfully misleading, while his further statements regarding the blond Nordic race and its superiority are exactly in line with those of the Hitler government, although disputed by leading scientists the world over.

We draw your attention to these facts because we believe that you would not countenance your valuable journal being made a vehicle for propaganda of this character.

G. E. HARRIMAN

Executive Secretary

Non-Sectarian Anti-Nazi League

New York, June 24, 1935

NOTE: A copy of this letter was sent to Dr. Barker, but when it reached his office, he was absent on a protracted visit to South America. We have re-read the portion of Dr. Barker's paper to which Mr. Harriman alludes, and would say that we have failed to find in it what we would call "anti-Semitic propaganda," or anything "wilfully misleading." Neither Dr. Barker (he will be given an opportunity to speak for himself later) nor the editor shares in such propaganda as mentioned in this letter, and the editor, almost needless to say, regrets that any statement in Dr. Barker's paper might be so construed.—THE EDITOR.

Detroit, Michigan  
July 22, 1935

Editor, JOURNAL MICHIGAN STATE MEDICAL SOCIETY:

I have before me an editorial entitled "Testimony and Malpractice" as contained in the July 15th issue of the JOURNAL. I assume this excellent article comes from your pen and I am, therefore, desirous of requesting reference privileges for future use. Members of your profession will do well to thoroughly absorb the contents of the last two paragraphs.

LANGLEY E. SMART.  
Aetna Life Insurance Company

## GENERAL NEWS AND ANNOUNCEMENTS

### TO ANNUAL MEETING

By train to the Soo—Western Michigan.  
Pennsylvania Railroad

Kalamazoo .....	8:50 P. M.
Grand Rapids .....	10:35 P. M.
Cadillac .....	1:45 A. M.
Arrive Mackinaw .....	7:25 A. M.
Sault Ste. Marie.....	12:35 P. M.

Through cars to the Soo if 12 or more.

Round trip rates.

Fare from Grand Rapids and return, \$14.50.

To guarantee a through car, early reservations must be made through State Secretary, or Mr. A. E. Butin, Penn. R. R., Grand Rapids.

### SPECIAL BOAT CRUISE TO STATE SOCIETY MEETING

Physicians from the southerly part of Michigan will be able to go to the Annual Meeting of the Michigan State Medical Society at Sault Ste. Marie on a special chartered boat from Detroit, according to plans of the Wayne Delegates.

The proposed schedule is to sail from Detroit on Saturday, September 21, at 8:00 P. M., and arrive in Sault Ste. Marie, Sunday, September 22, between 5:00 and 6:00 P. M., in plenty of time for the first session of the House of Delegates, which will meet Monday at 3:00 P. M. The House of Delegates will run through Tuesday, and the first general session will be Tuesday evening at 8:00 o'clock. The cruisers will stay for the other three general sessions, Wednesday morning, Wednesday evening and Thursday morning and will set sail for home Thursday, September 26, at noon, arriving in Detroit Friday, September 27, at 10:00 A. M., in plenty of time for work.

The S. S. Hamonic of the Canada Steamship Lines, Ltd., has been offered for this service to the Committee on Chartering Boat, composed of Dr. C. F. Brunk, Chairman, Drs. B. L. Connelly, H. B. Dibble and W. R. Clinton.

The rates are \$57.50 per capita, which includes transportation, all meals during the six days, state-room accommodations on the trip and during the stay at Sault Ste. Marie—in other words, the boat will be your hotel at Sault Ste. Marie. Full ship entertainment will be offered on the trips up and back.

Physicians from the southerly part of Michigan, their wives and families are invited and urged to consider this cruise. It offers a leisurely way to reach Sault Ste. Marie, comfortable accommodations, good fellowship—in all, a pleasant and economical vacation. A guarantee of 200 people is necessary, so we invite and urge all who may be interested to write to the Committee on Chartering Boat, 4421 Woodward Avenue, Detroit, for full information and particulars, or contact Mr. Dave Keddie, Canada Steamship Lines, 419 Dime Bank Building, Detroit, Michigan—Telephone Cadillac 8563.



There is a good location open in a small town in Western Michigan. See the Classified Advertisements in this issue.

\* \* \*

The sixth annual Golf Tournament of the Wayne County Medical Society will be held at Oakland Hills Country Club on Wednesday, August 28.

\* \* \*

The officers of the Detroit Pediatric Society for the year 1935-1936, elected at the annual meeting held June 19, 1935, are as follows: President, Dr. Edgar E. Martner; vice president, Dr. Edward A. Wishropp; secretary, Dr. W. J. Scott; treasurer, Dr. Wm. S. O'Donnell.

Meetings are held the first Wednesday of each month, September to June (inclusive), at the Wayne County Medical Society Building, at 8:30 p. m.

\* \* \*

Dr. Walter Parker of Detroit was awarded the honorary degree of Doctor of Science at the June commencement at the University of Michigan. Dr. Parker is a graduate of the University of Pennsylvania and was similarly honored by his alma mater a few years ago. Dr. Parker was Professor of Ophthalmology at the medical school of the University of Michigan for many years. He is now professor emeritus. The honorary degree is well merited, for Dr. Parker has been for many years among the leaders of his specialty in America.

\* \* \*

On July twenty-seventh, the regents of the University of Michigan made a significant appointment to the staff of the Medical School. Dr. Bradley M. Patten, present assistant director of medical sciences of the Rockefeller foundation, will come to the University in the fall as professor of anatomy and director of the anatomical laboratories to succeed the late Dr. G. Carl Huber, who died last December. Dr. Patten, who is forty-six and the son of the well known zoölogist, Professor William Patten of Dartmouth, was formerly a member of the anatomical staff at Western Reserve University, Cleveland. He is an active investigator in embryology and has written two widely used textbooks: one on the embryology of the chick, the other on the embryo pig. His investigations have been concerned chiefly with the development of the heart, the initiation of the heart beat and the changes of the vascular system at birth.

\* \* \*

Dr. Duncan A. Cameron of Alpena observed a half century of medical practice on July 19. Dr. Cameron is well and favorably known to the physicians of Michigan. He was democratic representative of the state legislature in 1933 and 1934. Dr. Cameron went to Alpena when he was twenty-one years old, after graduating from McGill University. A half century ago, Alpena was the center of the lumber industry, which has since practically vanished. Nine years ago, a celebration was held in Dr. Cameron's honor during a "Home Week" celebration. Over 1,200 persons at whose birth Dr. Cameron had officiated marched in procession. This JOURNAL congratulates Dr. Cameron on his fifty years of faithful service.

\* \* \*

### Indigent Afflicted Children

At this time we can report that the Executive Committee of the Council of the Michigan State

Medical Society are arranging a round table discussion to review the legislation passed in the last legislature and its effect upon medicine. It is understood there are many difficult situations that have arisen; these will be discussed and an early solution is expected. One of the subjects to be brought up is the effect of Act No. 94 of 1935 (Bill No. 277, the amendment to the Afflicted Child Act involving the care of Afflicted Indigent Children) upon the professional fees of the physician. With the passage of Bill No. 277 the responsibility of the payment of the physician passed from the County to the State. The transportation expense passed from the State to the County. This latter situation tends to keep Afflicted Indigent Children in their own county. Thus the local physician should be taking care of these cases in his own community. He is. But he is being paid only one dollar per case by the State because no appropriation was placed in Bill No. 277, by which money can be obtained to pay the physician (a reasonable fee). This ridiculous fee of one dollar per case is being paid until such a time when an appropriation be made to take care of the expense involved.

\* \* \*

### Upper Peninsula Medical Society

The annual meeting of the Upper Peninsula Medical Society will be held at Iron Mountain, August 15 and 16. The meeting will be opened with the address of the president, Dr. F. G. Maloney. The remainder of the program is as follows:

Thursday, August 15.—Differential Diagnosis of Lesions of the Alimentary Tract from Standpoint of X-ray, Dr. Fred Hodges, Professor of Roentgenology at University of Michigan; Conduct of First and Second Stage of Labor with Special Reference to Analgesia and Anesthesia, Dr. Norman Miller, Professor of Obstetrics and Gynecology at University of Michigan; Sacro-Iliac Strain, Dr. Reginald Jackson, Madison, Wisconsin; Medicinal Treatment of Peptic Ulcer, Dr. Grant Laing, Chicago, Ill.; Acute Infections of Mouth, Throat, Nose and Neck, Dr. A. C. Furstenberg, Dean of Medical Department of University of Michigan; Fever Therapy, Dr. H. P. Doub, Ford Hospital, Detroit; Medical Legislation, Dr. James D. Bruce, Head of Medical Extension Department at University of Michigan.

Friday, August 16.—Injection Treatment of Hernia, Dr. W. H. Alexander, Iron Mountain, Mich.; Toxemia of Burns, Dr. G. I. Allen, Ford Hospital, Detroit; Disease of Prostate, Dr. G. J. Thompson, Mayo Clinic; Allergic Disease, Dr. F. W. Gaarde, Mayo Clinic.

## OF GENERAL MEDICAL AND SURGICAL INTEREST

### THE DIAGNOSIS OF EARLY CANCEROUS CHANGES IN PEPTIC ULCER

Arthur L. Bloomfield, San Francisco, studied the gastric secretion in ninety-two consecutive cases of cancer of the stomach. Twenty-two cases of cancer with acid were carefully analyzed to see what evidence existed that acid gastric secretion in the presence of cancer indicates that the growth has arisen on the basis of peptic ulcer. The conclusions are based on history, on roentgen examinations and on necropsy or operative material. In nine of the twenty-two cases it could definitely be said that benign ulcer preceded the cancer, and in six more this

was highly probable. In five cases no conclusion could be reached and in only two was it certain that no ulcer had existed. In most of this group of cases with preservation of gastric secretion peptic ulcer was the initial event. As a control, a series of twenty-two consecutive cases of cancer with anacidity were analyzed in the same way and in not a single case was there proof of preceding ulcer and in all but four it was certain or probable that the cancer was not on a basis of ulcer. The observations support the view that there are two types of cancer of the stomach, which differ in their pathogenesis: (1) cancer arising in stomachs the seat of chronic gastritis with anacidity and (2) cancer arising in peptic ulcer. The former is the usual variety; it comprises from two-thirds to three-fourths of the cases. The presence of acid is the crucial factor in the diagnosis of cancer ex ulcere. The author also considers the symptomatic response to therapy, roentgen examination, the size of the ulcer, the age and sex of the patient and the length of the history as available data for a so-called early diagnosis of carcinomatous gastric ulcer. It is impossible by clinical observation to determine early cancerous changes in apparently benign peptic ulcer. The various criteria, while statistically valid, are subject to so much variation that they cannot be depended on in the individual case even though the great size of the lesion points strongly to cancer. Hence, if prophylactic surgery is to be used, one should consider every gastric ulcer as possibly malignant if not in fact, and one should excise them all. But the surgical risks of such wholesale gastric resection are distinctly greater than the hazard of ulcer being or becoming malignant. The only practical attitude to adopt, therefore, is to regard small, apparently innocent gastric ulcers as in fact benign until evidence to the contrary is weighty enough to arouse serious suspicions, and to accept the fact that a certain number of unavoidable tragedies will occur. They will occur in the future as they have in the past, not necessarily because physicians are careless but because they are helpless in the face of an insoluble problem of diagnosis. (*Journal A. M. A.*, April 6, 1935.)

#### CARCINOMA OF RECTUM: SOME CAUSES FOR POOR PROGNOSIS

A careful analysis of the answers obtained from 200 patients has led J. Arnold Bargen and Eugene T. Leddy, Rochester, Minn., to conclude that the poor prognosis of carcinoma of the rectum is the result of: 1. The frequent wasting of valuable time on the part of patients by self diagnosis and self treatment, and by regarding the symptoms as unimportant. 2. Delay by the physician to make a digital examination of the rectum. 3. Lack of knowledge, on the part of the patient, concerning the safety and satisfactory end-results of rectal surgery. Symptoms of carcinoma of the rectum simulate those of other benign lesions and even those of functional conditions. Temporization and mismanagement cannot be too strongly condemned, for they will place many patients beyond all hope of cure and relegate them to palliation and hopelessness. I doubt exists about any given lesion or group of symptoms, the lesion should be considered carcinoma until it is proved otherwise. The fallacy that rectal symptoms should be considered and treated as functional upsets is perpetuated unfortunately by the exploiters of nostrums, and the physician is forced to compete with those who offer free medical advice for pecuniary reason only. The patient, who lacks discriminating sense, therefore treats his symptoms but not the underlying lesion until he becomes convinced, by his own failure to relieve himself, that medical advice is highly desirable. As carcinoma of the rectum

can nearly always be diagnosed with the index finger, it is lamentable that so many patients who are afflicted with this condition do not consult a physician until it is too late to secure the greatest benefit. (*Journal A. M. A.*, April 6, 1935.)

#### CORONARY ARTERY THROMBOSIS WITH PERICARDIAL EFFUSION

A. M. Master and Harry L. Jaffee, New York, cite two cases in which the evidence appears fairly conclusive that the pericardial effusion was due to an acute coronary artery occlusion. In the first case, a man, aged 60, an acute illness was present with a previous history of syphilis but no evidence of rheumatic fever or rheumatic heart disease. There was also no reason to consider the diagnosis of tuberculosis. On the other hand, the history was typical of coronary artery thrombosis in a patient with arterial hypertension. A roentgenogram and pericardial rub were proof of a pericarditis with effusion. In the second case, a woman aged 57, the question arose during her hospital stay whether or not the lung signs were those of pneumonia, and hence whether the pericarditis with effusion was a complication of the pneumonia. Pain over the chest, even in the precordial region, may be present in a patient suffering from pneumonia. Clinically, however, the patient's course was not that of pneumonia. Further proof that coronary artery disease was the basis of her trouble was observed when she returned to the hospital for reexamination. She complained of precordial pressure following the slightest physical exertion. The electrocardiogram corroborated the diagnosis, for it still showed evidence of myocardial damage. It may be thought that instead of a pericardial effusion a hemopericardium occurred. This is hard to disprove completely, as the patients survived and paracentesis was not performed during life. However, the course in hemopericardium is usually rapid and fatal. (*Journal A. M. A.*, April 6, 1935.)

#### TREATMENT OF DIABETES WITH INSULIN (AFTER TEN YEARS): CONTRASTING EFFECTS OF NORMAL AND OF OLDER DIABETIC DIETS

H. Rawle Geyelin, New York, summarizes the results of treatment in a group of 150 cases of diabetes treated with insulin and a high carbohydrate diet during the past ten years. Patients treated with high carbohydrate low fat diets achieve greater effectiveness of insulin as judged by the ratio of units of insulin to grams of carbohydrate oxidized. The administration of such diets overcomes hypercholesterolemia. In the majority of instances, blood sugar levels are reduced after the administration of high carbohydrate diets. Hyperinsulinism is less common and less severe. Complicating conditions such as tuberculosis, gangrene and cardiovascular disease are less common when patients are being treated with the high carbohydrate diet (normal calories). After ten years of application of the high carbohydrate diet, the majority of patients show no loss of food tolerance or any other demonstrable retrogression of the diabetes. (*Journal A. M. A.*, April 6, 1935.)

#### SHORT WAVE DIATHERMY: PRELIMINARY REPORT

Frank Hammond Krusen, Philadelphia, believes that before short wave and ultra-short wave diathermy machines are used extensively: 1. They should be improved in construction, and the manufacturers should specify definitely the wavelengths of the apparatus and their output in watts. 2. Fire hazards



should be eliminated. 3. An accurate method of measuring dosage should be perfected. 4. More data concerning the physiologic effects of the waves they produce should be amassed. 5. The idea that the apparatus is simple to operate and that treatment may be given through the clothing should be dispelled. 6. The technic of application should be improved so that the danger of burning sensations is lessened. It would seem that with further study by physicists and engineers concerning the proper methods of constructing apparatus, and with further clinical investigation by especially skilled physicians in hospital physical therapy clinics, short wave diathermy may prove to be a useful therapeutic agent. But at the present time many of these devices have not been sufficiently perfected, and it must be confessed that knowledge of the exact physiologic effects of these waves is very limited. Extensive employment of these machines at the present time can lead only to unsatisfactory results and may cause condemnation of a method of treatment that might otherwise be found serviceable. (*Journal of A. M. A.*, April 6, 1935.)

#### TENTATIVE CLASSIFICATION OF ALLERGIC DERMATOSES

Marion B. Sulzberger, Fred Wise and Jack Wolf, New York, submit an illustration and table that give their suggestion for a schematic and tentative classification of the various common allergic dermatoses. The division is based on the site of the shock tissue (epidermis or cutis) and the length of time required for the development of the visible reaction, after the union of allergen and sensitized tissue. In eczematous, tuberculin-trichophyton-type and urticarial dermatoses the reaction to skin testing is characteristic; this has served as the criterion for classification. Thus the atopic dermatoses, including the clinically apparently eczematoid disseminated neurodermites, are classified under the urticarial group. The fourth group has no characteristic reaction to the skin test and should be considered as including the miscellany of sensitization dermatoses, such as erythema nodosum, multi-form erythemas and drug eruptions of various types. It will be seen that this group is heterogeneous, with sensitization as the one common factor. This group, therefore, includes the many as yet unclassified sensitization dermatoses. The classification must be considered a tentative one, because it rests only partially on established facts, the remainder being based on as yet insufficiently confirmed experimental evidence and, in some cases, even as hypothesis. As knowledge of these dermatoses increases, it will doubtless be necessary to modify and change various points. With the rapid progress in the study of allergy, the necessity for such changes may soon become apparent. Nevertheless, it seems to the authors that the table submitted represents a concise and tenable classification of sensitization dermatoses which is not in contradiction to any at present established facts. Such a presentation may prove of aid in the understanding, teaching and further study of these conditions. —(*Journal A. M. A.*, April 27, 1935.)

#### GLANDULAR PHYSIOLOGY AND THERAPY: THE PHYSIOLOGY OF ESTROGENIC PRINCIPLES

Edgar Allen, New Haven, Conn., stresses the following points in the physiology of estrogenic substances: First, as a major objective, the fundamental endocrine mechanism of the estrous and menstrual cycles has been demonstrated. Active hormones have been isolated and their relation to one another partially worked out. Second, incidental to the first point, the reaction of the rodent's

vagina has provided a practicable test for the biologic standardization of therapeutic products, and these have now replaced the inert gland extracts previously in wide clinical use. Third, the extension of the test to carcinogenic substances and to other substances of similar chemical structure from a wide range of sources is extremely important. In description of some of the carcinogenic and estrogenic substances, the time interval required may be considerably greater than that required for the growth phase of the estrous reaction to theelin. The reasons for variations in the time of reaction are not clear. It is not yet known whether some of the related substances included under the term "estrogenic" will produce more than the vaginal growth reaction. Few of them have been tested as to value in replacing other phenomena of estrus or menstrual phenomena in primates.—(*Journal A. M. A.*, April 27, 1935.)

#### PERIPHERAL VASCULAR DISEASE: ITS SIGNIFICANCE FOR GENERAL PRACTITIONERS AND SPECIALISTS

Géza de Takáts, Chicago, points out that it is no exaggeration to say that thousands of individuals are unconscious or mildly conscious of a progressive interference with their peripheral circulation. Their feet may be pulseless but still in a stage of compensation. Their "rheumatic" pains come and go with changes of weather, mechanical stress or emotional load. An occasional numbness or tingling of the extremities is disregarded. They undergo an annual or semiannual physical examination during which peripheral circulation is ignored, although the heart is carefully examined, chest plates are taken and electrocardiograms are read. As a result, the middle aged wage earner, the insured policyholder, or the railroad or street car conductor suddenly develops a serious interference with the peripheral blood flow. Undoubtedly the general practitioner sees these patients first. Many cases of peripheral vascular disease are also encountered by internists, orthopedic surgeons, traumatic and industrial surgeons, neurologists and dermatologists, whose special field of interest lies somewhat apart from problems of peripheral circulation. The study of peripheral circulation has advanced to a point at which a simple office procedure can be included in the course of a thorough physical examination. The author outlines such methods of examination, evaluates their meaning and indicates the therapy of the most common peripheral circulatory disturbances.—(*Journal A. M. A.*, April 27, 1935.)

#### TREATMENT OF RHEUMATOID ARTHRITIS WITH FEVER INDUCED BY DIATHERMY

Charles L. Short and Walter Bauer, Boston (*Jour. A. M. A.*, June 15, 1935), employed fever induced by diathermy in twenty-five cases of rheumatoid arthritis. In twenty cases at least temporary improvement was shown, both subjectively, in freedom from pain, and objectively, in increased joint motion and occasionally in decreased effusion and swelling. This improvement was only temporary, and in only five has the gain been maintained to the end of the follow-up period of from more than three years to one year. The number of treatments given each patient varied from one to fifteen, and the usual temperature maintained was 104 F. for four hours. While no patient was seriously injured by this treatment, all looked on it as a harrowing ordeal. When the results obtained are balanced against the severity of the treatment, the authors' conclusion is that in rheumatoid arthritis the use of this method is only occasionally justified and should not be used to the exclusion of general treatment.

## THE DOCTOR'S LIBRARY

*Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.*

**THE METHOD OF ACTION OF RADIUM AND X-RAYS ON LIVING TISSUES.** By Hector A. Colwell, M.B., Ph.D., M.R.C.P., D.P.H. The Barnato Joel Laboratories, Middlesex, Hospital, London, awarded the Garton Prize and Gold Medal of the British Empire Cancer Campaign, 1934, Oxford University Press, 1935. Price, \$5.00.

In view of the ever increasing application of the x-rays and radium in treatment, no timelier study could have been made than this, the results of which are recorded in the present work. The six chapters that comprise the book are (1) The Cell; (2) Chemical Actions of the Radiations; (3) General Effect of Radiation on Cells; (4) The Reticulo-endothelial System and Some Immunity Reactions; (5) Radiation and Resistance to Tumor Growth, and (6) The Action of Radiations on Malignant Growths. So important is the animal cell in any study of the action of the x-rays or radium that the author prefaces the work with this chapter which embodies the results of the latest histological research on the subject.

**A TEXTBOOK OF CLINICAL NEUROLOGY:** By Israel S. Wechsler, M.D., Professor of Clinical Neurology, Columbia University, New York; Attending Neurologist, Neurological Institute and The Montehore Hospital, New York. Third Edition, Reset. 826 pages with 162 illustrations. Philadelphia and London: W. B. Saunders Company, 1935. Cloth, \$7.00 net.

Book reviewing may be approached from two directions, one an attempt to describe the contents so as to give the reader an idea of the scope and character of the author's treatment of the subject; the other, the approach of the critic who sits in judgment over the work. In medicine the former is more acceptable to the general practitioner; the latter appeals to the specialist. This work on clinical neurology is essentially for the general practitioner or the internist. The modern tendency, says the author, is to weave into one texture anatomy, physiology, pathology and symptomatology. This is, of course, the viewpoint of internal medicine. In this third edition, the work which first appeared in 1927 has been brought up to date. The chapters include Methods of Examination, The Peripheral Nerves, The Brain, The Neuroses, and, as an innovation, there is an interesting chapter on the History of Neurology. The book is the embodiment of the author's personal teaching. It is not concerned with controversial topics but confines itself largely to the accepted data on the subject.

**THE STORY OF MEDICINE IN THE MIDDLE AGES.** By David Reisman, M.D., Sc.D., professor of the History of Medicine and professor of clinical Medicine, University of Pennsylvania; member of History of Science Society and Mediaeval Academy of America. Illustrated; 401 pages. Paul B. Hoeber, Inc., New York, 1935. Price \$5.00.

We are all much more familiar with the mythology and history of Greece and Rome than we are about the period of history known as the Middle Ages. This fact will not be so true in the future as it is at the present time, in as much

as the so-called "Dark Ages" are coming into their own. They are challenging exploration. This is true in social and political history and is becoming equally true in the history of medicine, with which we are at present concerned. While the middle ages had their superstitions and their wars (we at the present time cannot boast), there was also a great deal of beauty as well as the appreciation of beautiful things. These were the centuries which produced the great cathedrals, that produced the Magna Charta and the beginnings of representative government. Many of the universities that have since become world famous had their origin in the thirteenth century. While the Middle Ages had not been wholly neglected by medical historians, Dr. Reisman's book is the first work in English so far as we know that has emphasized this period of medical history. He brings to the work a mature mind trained by years of study and research not only in medical history but likewise in clinical medicine. Many of the illustrations of Dr. Reisman's "story," most of them in fact, will be found new to the average reader, in as much as they have hitherto been unpublished. Dr. Reisman devotes fifty-four pages to the subject of universities alone, which contains all the matter the average reader of medical history will care to peruse. There are chapters on anatomy, surgery, medicine and the guilds, uroscopy, medieval textbooks on medicine, the lay attitude towards the medical profession in the middle ages, thirty-five chapters in all. A word in regard to the typographical appearance. It is some time since it has been our privilege to review a Hoeber book. Paul B. Hoeber Inc. has won a just reputation in the fine craft of book making. The present story of medicine in the middle ages is fully equal to the publisher's best efforts. The typographical appearance, the format and illustrations are all that even the most fastidious can ask in a book.

### Dedication Addresses

We have received a handsome volume de luxe in character bearing the imprint of the Lilly Research laboratories. The dedication of these new research laboratories was described in this JOURNAL earlier this year. The present book gives in full the addresses made by many of the leading medical scientists of the English speaking world. The table of contents is as follows:

Address of Welcome, Mr. Eli Lilly; Comments on Research in Manufacturing Pharmacy, Mr. J. K. Lilly; The Unpredictable Results of Research, Dr. Irving Langmuir; The Early Story of Insulin, Sir Frederick Banting; Chemical Ideas in Medicine and Biology, Sir Henry Dale; Dinner Program with Addresses by Toastmaster, Mr. J. K. Lilly, Sir Henry Dale, Dr. Elliot P. Joslin, Dr. George R. Minot, Dr. Frank R. Lillie, Dr. George H. Whipple, Dr. Carl Voegtlin, Dr. George H. A. Clowes; Program of the Informal Meeting of the Research Group, Chemical Transmission of the Effects of Impulses in the Peripheral Nervous System, Sir Henry Dale; Contributions to the Chemistry of Cell Division, Dr. Carl Voegtlin; Action of Certain Oxidative Stimulants and Depressants on Respiration and Cell Division, Dr. G. H. A. Clowes and Dr. M. E. Krahle; Some New Methods of Studying Monomolecular Films, Dr. Irving Langmuir and Dr. Katharine B. Blodgett; General Description of the Lilly Research Laboratories, Illustrated, J. P. Scott; Directory of the Research and Control Staff, Lilly Research Laboratories.

The Lilly Company is to be commended for preserving the excellent papers in permanent form.



# THE JOURNAL

OF THE

*Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOL. 34

SEPTEMBER, 1935

No. 9

## CARCINOMA OF THE UTERUS: ITS EARLY DIAGNOSIS AND TREATMENT\*

WILLIAM D. FULLERTON, M.D., F.A.C.S.†  
CLEVELAND, OHIO

Carcinoma is the uncontrolled proliferation of immature epithelial-like cells which develop and differentiate to only a varying degree, but which never reach full maturity.

Carcinoma is always a new growth and may originate wherever there are epithelial cells such as cover the body, line its cavities or are functional in its many organs.

### Etiology

Many theories have been advanced as to the cause of cancer, none of which are satisfactory, as none can be proven. We might just mention such theories as congenital cell rests, infections by ultra-microscopic organisms, inheritance, chronic irritations of normal cells, etc. Hoffman<sup>21</sup> holds that only faulty dietary habits and food stuffs can explain the tremendous increase in gastric and intestinal cancer, which, however, does not explain the increase in breast and genital cancer in the female. These, he suggests, may be due to fundamental biological changes resulting from changes in sexual life and habits.

Cancer is not infectious or contagious. No doctor or nurse has ever been known to contract the disease in this way. Maude Slye has done some wonderful experimental work showing the influence of inheritance in rat and mouse cancer, but unfortunately we cannot control the breeding of humans sufficiently to learn whether or not her results apply to man. It is true that members of the same family, living closely associated, with similar habits, do develop cancer, but

is this due to environment, inheritance, or, with the frequency of cancer, just to a mathematical probability?

Cancer is distinctly a disease of opulent civilization. Primitive people the world over are almost free from malignant tumors, although non-malignant tumors are not uncommon. In 1921, only 28, or 3.2 per cent, of 876 North American Indian women died of cancer, 9 of which were of the genitalia. The susceptibility of primitive people to malignant tumors seems to increase only with their contact with civilization and their adoption of civilized habits and customs.

In all probability no single factor is responsible for the development of cancer, but one or more of a multitude of conditioning circumstances resulting in long continued chronic irritation usually exists. Hoffman<sup>23</sup> shows statistically that certain occupational incidences of cancer are here important. Percival Pott, in 1775, first drew attention to chimney sweep's cancer. The frequency of cancer of the lungs in certain classes of miners, of the bladder in chemical workers and dyers in textile industries, of the skin in certain occupational diseases, x-ray and radium workers, is well known. The occu-

\*Read at a joint meeting of the Detroit Obstetrical and Gynecological Society and the Wayne County Medical Society, February 4, 1935.

†Dr. William D. Fullerton is a graduate of Sheffield Scientific School, Yale University, Ph.B., 1907; graduate of Johns Hopkins University, Department of Medicine, M.D., 1911; Fellow of American College of Surgeons, 1919; Diplomate, American Board of Obstetrics and Gynecology, 1932. His practice is limited to Gynecology and Obstetrics. He is Senior Instructor in Gynecology, Western Reserve University, Department of Medicine, and Visiting Gynecologist, University Hospitals.

pational risk is probably only one of several predisposing causes. In San Francisco, of 3,462 cancers, only 1.8 per cent were of the skin, so that exposure to weather is not here significant. In only 2.23 per cent of 762 cancers was there any history of a single trauma, which, therefore, cannot be held important, and in the majority of such reported cases, the etiology of trauma cannot be scientifically established.

Cancer never starts in normal healthy tissues or organs. It always begins at one minute focus, the cells of which at first are normal, but under the influence of chronic irritation, they eventually become malignant. Recent findings indicate that definite but early cancer may remain quite inactive for as long as 8 to 10 years and then suddenly by some unknown influence start to proliferate with great rapidity. Hofbauer<sup>20</sup> has described some occasional epithelial hypertrophies which occur in the cervix during pregnancy and which may be the forerunners of later malignancy.

### Mortality

May I be pardoned if I stray slightly from my specific subject and give you just a few facts about cancer in general? The vital statistics of the U. S. Registration Area are a very reasonable and dependable source of much valuable information, and Fred L. Hoffman,<sup>22</sup> statistician for the Prudential Insurance Company, has from this source, as well as others, given us some most interesting and startling figures.

In the first place, there are at least 150,000 deaths annually in the United States and Canada from malignant growths (Martin<sup>30</sup>). The death rate has more than doubled in the past 20 years, and is increasing at about 2.5 per cent each year. Deaths from all other causes, except diseases of the cardio-vascular system, show a steady decrease. Cancer is the scourge of civilization and presents the most serious menace to the health and life of civilized people.

This alarming increase in mortality continues in spite of the enormous amount of work being done by innumerable brilliant investigators to check the ravages of cancer from any and every angle. Though most carefully considered, this increasing mortality cannot be attributed to more efficient and correct modern diagnosis, and it continues irrespective of the fact that increasing thou-

sands are saved annually by appropriate medical treatment.

The proportion of cancer deaths varies considerably in different sections of the country and in general is higher in large cities. In 1933 the mortality ranged from 17.0 per 100,000 population in Hamtramck, Michigan, to 176.2 in Boston, Massachusetts, and to 304.2 in Madison, Wisconsin. The average at present for the entire country is about 120.0 per 100,000 population.

There is also a marked variation in the number of deaths from cancer of different organs. The mortality per 100,000 population for the registration area in 1927, by organs affected, varies from 0.7 for the larynx to 34.0 for the stomach and liver, as shown by the following table:

0.7 Larynx
2.5 Skin
2.9 Buccal cavity
3.0 Bladder
3.5 Prostate
8.8 Female breast
13.8 Female genitals
14.0 Intestine and Rectum
34.0 Stomach and liver

Although cancer is seen from early infancy to advanced old age, it is more especially a disease of middle and late life. The average age at death from cancer is 59 years for males and 58 years for females; from the ovary 49.5, uterus 55.3, breast 57.1, and the vulva 60.3 years. The increasing mortality cannot be attributed to the increasing average age of the population at death. The elderly are more often affected, because the time element of long continued irritation is required for cancer development. As a rule, the younger the patient, the more malignant the disease.

The sex variation of cancer deaths shows three women die to every two men. One woman out of every eight, and one man in twelve, who reach thirty-five years of age, dies of cancer. The following table of proportionate deaths by sex and organs is of particular interest from the standpoint of chronic irritation as an etiological factor.

	Buccal Cavity	Tongue	Gall- bladder	Breast	Bladder
Male . . .	2,132	555	3,475	89	1,707
Female ..	478	98	5,300	6,927	712

In 1920 the mortality in the U. S. from cancer of the female genitalia was 12.3 per 100,000 population; in 1931, 13.8, of which



the rate for the uterus was 12.1, ovary 1.3, and vulva and vagina, 0.4, *accounting for the deaths of more than 18,000 women.* During approximately the same time, cancer of the breast increased from 7.6 to 9.6 per 100,000 population, *accounting for 11,500 deaths.* Just stop for a moment and think of the horror of this fact, 30,000 women, most of them in their prime of life, domestically, maternally and industrially, sacrificed every year to but these two types of cancer; and what makes the situation all the more deplorable is that a very large proportion of this vast army of courageous women could be cured permanently and saved by proven means of treatment at present at our disposal, if they could only be seen and cared for early in the course of their disease.

Carcinoma of the Uterus

Carcinoma of the uterus is almost always primary. It may originate in the cervix or fundus. In the former location, it may be either squamous in type or more rarely glandular; in the fundus, it is almost always adenomatous. The averages from many large clinics show that 90 per cent of all uterine carcinoma is in the cervix, and 10 per cent in the fundus. Ninety-five per cent of all women with cervical cancer are married and 93 per cent have been pregnant. With cancer of the fundus, about one-half occur in nullipara. Carcinoma of the cervix is more common before the menopause, 10 per cent occurring before the age thirty-five, and 20 per cent before age forty. Cancer of the fundus is more common after the menopause, although 5 per cent occur before age forty.

A matter frequently discussed recently is the development of cancer in the stump of the cervix left at a former supracervical hysterectomy. The following table may be of interest.

Careful analysis will reveal that a majority of these cases showed carcinoma relatively soon after the former operation. The

truth of the matter is, that due to carelessness or lack of training, many, if not most, of these cancers were overlooked at the time of the former operation, and now, realizing how long carcinoma may lie dormant, this contention is given further support.

These reports open for discussion the controversy of complete hysterectomy versus supracervical amputation of the fundus. I am personally convinced that in the hands of the majority of operators the complete operation is attended by a much higher primary mortality and by far more postoperative complications, which greatly outweigh the benefits of the major procedure. The cervix should always be carefully examined, and if its condition cannot be made satisfactory by conservative measures, cauterization, trachelorrhaphy, or even amputation, it should be removed. Otherwise, it should be appropriately dealt with and not routinely removed. More women will die as a result of the routine removal of the cervix than will subsequently develop cancer in this location.<sup>15</sup>

Diagnosis

At present the diagnosis of carcinoma of the cervix is unfortunately usually a simple matter. Cases do not present themselves for treatment any earlier than they did twenty years ago. Symptoms have existed for from three to six months or longer, and the cervix is grossly involved by the new growth. Here the diagnosis is unquestionable.

We are here chiefly concerned with the diagnosis in the early cases, for which there is more hope of a permanent cure. An accurate history should always be taken: age, marital state, parity, family history of inheritance, and particularly the menstrual history, should be carefully noted. The importance of several of these factors has already been discussed. Abnormal vaginal bleeding is the most constant symptom of cancer of the uterus and is present in over 70 per cent of all cases. The periods may

Author	No. Cerv. Ca.	No. Stump Ca.	Time after Oper.
MacFarlan and Howe <sup>20</sup>	259	12	4 in 1 yr.
Johnson and Tyrone <sup>25</sup>	959	21	Most 1 to 2 yrs. 1 to 17 yrs.
Mayo <sup>32</sup>	In 20 yrs.	99	44 within 3 yrs.
Spencer <sup>42</sup>	European Clinics	3%	of all cervixes left
Forgue <sup>14</sup>		1%	Cervices after fibroid
Spencer <sup>42</sup>	900 Hyst. Fibroids	2%	Unrecognized ca. cervix

be prolonged, increased in volume, or occur too frequently. Bleeding between periods, even though slight in amount, and especially if after intercourse or douching, is very significant. Bleeding after the menopause, irrespective of the amount, is very suggestive, carcinoma being found in upwards of 65 per cent of such cases, particularly in the fundus of elderly women.<sup>27</sup> A degree of anemia is often met with which cannot be accounted for by the bleeding alone.

### Physical Examination

The routine physical examination should always be made and the patient's general condition noted. The pelvic examination is of course of chief interest. After determining the size, shape, consistency, position and mobility of the cervix and fundus and the adnexæ, the cervix should be well exposed and most carefully examined.

On the normal cervix the vaginal mucosa should end sharply at the external os. With a simple eversion of the epithelial lining of the cervical canal, or ectropion, there is no loss of tissue and rarely any infection, and this condition in itself does not often predispose to cancer. An erosion is an infected ulcer with loss of tissue, which usually occurs at the site of an old laceration. Such ulcers are chronic, difficult to heal, and often break down repeatedly. Due to the chronic irritation and poor blood supply of such ulcers, or, if they heal, in the zone between them and the mucosa of the cervical canal, atypical cellular changes take place, giving rise to small nodules of keratinized epithelium or a leukoplakic condition, which often precedes cancer development.

The gross appearance of the advanced lesion is either a papillomatous fungating mass or a sloughing crater-like ulcer, with infection, free bleeding and foul discharge in either case.

The earlier stages of these conditions present diagnostic difficulties. The break in the mucosa may be very slight and difficult to differentiate from a small benign ulcer. Gentle pressure with a blunt instrument, provoking free bleeding (Chrobak-Clark sign), suggests carcinoma. Contact bleeding of carcinoma is freer than from erosions.

The earliest of cervical malignancies unfortunately produce no symptoms. There is no break in the epithelial covering, and the small circumscribed nodules may often be seen only by means of a strong light and

magnification, as with the colposcope of Hinselman. These nodules appear as small, white, pearly, opaque, dull, slightly rounded, sometimes wrinkled areas in the smooth, glistening, transparent epithelium of the cervix, and are often described as leukoplakia. However, many such areas are really early cancer. Histologically, leukoplakia shows a picture varying from epithelial hyperplasia to cellular malignancy, but without invasion. The loss of layer formation in the stratified epithelium strongly suggests malignancy. Cancer often develops in such areas and Martzloff<sup>31</sup> questions if this is not really a very early latent cancer.

How can we make certain that any suspicious area is, or is not, carcinoma? By means of biopsy. Schmitz,<sup>41</sup> Davis,<sup>13</sup> Broders,<sup>8</sup> Graves,<sup>16</sup> Jones,<sup>26</sup> Schiller,<sup>40</sup> in fact, practically all modern authorities, agree that this is the only means of positive early diagnosis. Although quite generous pieces of tissue should be excised for such purpose, the entire cervix cannot be utilized, so that it becomes exceedingly important to determine from what area to make such excisions. Schiller has devised a simple, quick and inexpensive means of locating such suspicious areas. Lahm found that the upper layers of normal cervical squamous epithelium were rich in glycogen, and therefore rapidly stained a deep mahogany brown, almost black, with Lugol's solution (iodine 1, potassium iodide 2, water 300), whereas cornified epithelium or cancer cells, containing no glycogen, did not stain but remained sharply demarcated whitish or pinkish areas.

The test is simple. The cervix is exposed and gently wiped clean of all mucus, then thoroughly saturated with Lugol's solution for one to two minutes, after which the excess of Lugol's is gently removed with cotton sponges. The stain does not take on everted glandular epithelium, and ulcers and erosions stain but lightly, appearing as light brown, velvety red areas. Traumatically desquamated areas do not stain and their shape helps to differentiate them. Hyperkeratotic areas, due to prolapse, leukoplakia or lues, do not stain well, but finally, unstained, sharply outlined areas may indicate the earliest known incipient stages of carcinoma. Knowledge gained from accumulated clinical experience is very important in differentiating these areas. When such an area is located, Schiller only scrapes away the



mucosa and stains it for histological examination, but the majority of pathologists prefer a liberal excision with a sharp knife. At biopsy, at least two areas should be excised and both pieces examined before a negative report is given, as only one of several may be positive for cancer.

In all unexplained vaginal bleeding, especially postmenopausal, a diagnostic curettage should be done, and the scrapings examined grossly and microscopically just as in case of biopsy of the cervix.

It is extremely important that the pathologist be expert in the interpretation of early malignancy. I personally always examine such sections myself and assume full responsibility for the diagnosis, and I feel that every gynecologist should do likewise, since this is a very specialized field of pathology and serious mistakes may be made by excellent general pathologists. Serial sections should always be made later of all specimens removed, as a small malignant focus might otherwise be missed.

TeLinde<sup>43</sup> has emphasized the fact that many women and more uteri are sacrificed by failure to recognize as non-malignant certain confusing cellular changes which often occur in the uterus, varying distinctly from the normal, but quite benign in character.

By direct extension, squamous epithelium may replace columnar epithelium destroyed by inflammation. Metaplasia, or the development of embryonal cell rests, may replace columnar with squamous epithelium. Benign squamous epithelium may invade the deeper tissues or grow up into the uterine cavity, especially of old women, often giving an adenomatous appearance. Healing wounds, chronic ulcers and inflammatory tissue often show penetrating benign epithelium. High power magnification and oil immersion study of the individual cells are often necessary to differentiate such confusing benign patterns from early malignancy.

A benign condition is indicated by the failure of cells to break through the basement membrane or to show any tendency to invade, also by the regularity of the individual cells as well as their nuclei, in size and shape, and the uniformity of their relatively light staining. Mitotic figures indicate rapid cell division, but alone are not indicative of malignancy. Such figures are often seen, especially post-menstrual and

with glandular hyperplasia. Retention of the normal differentiation of squamous epithelium into basal, transitional and spinal layers, especially when there is no thickening of the papillæ, suggests benignancy, but metaplastic epithelium may not show such differentiation.

Malignancy is indicated grossly by loss of the normal pattern of the epithelial layers, by thickening and irregularity of the papillæ, and by any tendency of the cells to invade the surrounding tissues; also by the presence of a zone of acute inflammation with leukocytic infiltration closely adjacent. Irregularity in the shape and size of the individual cells and their swollen nuclei, inequality in their staining, hyperchromatic nuclei and the presence of mitotic figures, all indicate malignancy. Cells which are apparently crowded, atypical and anaplastic, that is, resemble embryonic or immature cells in appearance, are always to be viewed with suspicion. What has been said applies equally well to glandular and squamous epithelium.

Carcinoma is a primary disease of epithelial cells, and as Broders<sup>8</sup> has emphasized, if seen early enough, will be seen *in situ*, that is, will not as yet have spread beyond the location where their ancestors were found before they underwent malignant transformation by a process of dedifferentiation or anaplasia. Here, the diagnosis must be made entirely upon cellular changes, rather than upon gross epithelial pattern. Adenocarcinoma may completely replace the normal cells of the glands before invasion occurs, but squamous carcinoma rarely so completely replaces the protective epithelium before invasion.

Through the stimulation of long continued irritation, cancer starts in a single cell of the basal layer of the squamous epithelium. This cell produces a virus or other stimulant of adjacent normal cells to cancer change, by so-called assimilation. The process first extends laterally, without elevation of the surface or invasion of the deeper tissues, but with thickening or clubbing of the papillæ, and, being wider at the base, meets the adjacent normal epithelium always on an oblique line, as pointed out by Schiller.<sup>40</sup> This is the cancer *in situ* of Broders. After a variable latent period, multiplication of the cancer cells eventually starts, with an eleva-

tion of the surface, ulceration, penetration, etc.

### Prognosis

The probability of permanent cure of cancer of the uterus depends chiefly upon the extent of the local lesion and the timeliness of treatment. Unfortunately, most cases are far advanced when first seen by those fitted to render appropriate treatment. All cases are roughly graded into four clinical groups:

1. Early—localized. Small area not over 1 cm. and very early or no ulceration.
2. Moderately advanced and doubtfully localized. May involve one-half of the cervix only, surrounded by a red, inflamed edematous area and with some limitation of motility.
3. Advanced—with invasive growth, parametrium thickened, uterus fixed, and lymphatics and vaginal walls involved.
4. Very advanced—with large crater ulcer or a fungating mass, frozen pelvis, and with involvement of bladder or rectum.

We might add a Group 5:

5. Recurrent, after former operation, with a varied degree of local involvement.

Burnam<sup>9</sup> for 1,578 cases of cervical cancer gives the following table as to the stage of the disease:

Operable (Early).....	9.37
Inoperable .....	61.40
Recurrent .....	19.13
Palliative (Advanced) .....	6.27
Prophylactic .....	3.8

Healy<sup>18</sup> for 1,574 cases from the Memorial Hospital gives 12.5 early, 12.0 borderline, 75.5 advanced.

Johnson and Tyrone<sup>25</sup> in 926 cases found only 11.5 per cent classified as early, and in only one-third had symptoms existed for less than three months. Crossen<sup>12</sup> found only 3 early cases out of 121 examined.

A perusal of the findings of numerous authorities gives an average for cervical cancer when first seen of not over 10 per cent early, 60 per cent moderately advanced to advanced, and 30 per cent advanced, recurrent, et cetera. Carcinoma of the fundus extends much more slowly, and is therefore more amenable to treatment, 40 to 70 per cent having a fair chance of cure.

Broders, Martzloff, and others, have attempted to make a prognosis and regulate treatment in individual cases, depending upon the degree of cellular malignancy as

found at biopsy. This is only moderately successful, for, as Jones points out, the cellular characteristics often vary in different areas of the same growth. There is also a considerable personal element in such classifications, which in addition do not always run true to form.

### Treatment

During the past twenty years the treatment of carcinoma of the uterus has become almost standardized. The great majority of authorities agree on all major points and have but slight personal variation in most minor details.

*Carcinoma of the cervix*—Practically all American surgeons, and most European operators, now agree that the best results are obtained in this condition by the local use of radium followed by deep radiation. The 5-year end-results are better or equally good and there is practically no primary mortality as compared to 6 to 25 per cent following radical abdominal panhysterectomy. Radical operation is therefore rarely justified, and then only in the very early cases. Radical vaginal panhysterectomy has found but little favor in this country though being used seemingly successfully by some continental surgeons.

The means of cure by radium is due to the fact that the carcinoma cells are more readily affected and killed by the radium rays than are the mature normal tissue cells. It holds generally that the more embryonic and immature the cells, the more malignant they are and the more readily they are affected by radium. The marked stimulation to the formation of connective tissue and the resulting decrease in vascularity and nourishment to the malignant cells is also an important factor.

Radium is used in three varying ways: (1) Small doses over a long period of time; (2) moderate doses, repeated; (3) large doses, quickly. When an adequate supply of radium is available the majority of authorities prefer a single large dose. I cannot for want of time go into the details on the somewhat complicated technic, dosage, filtration, etc., but may say that a single dose of 3,500 to 4,500 m.c.h. given in less than twenty-four hours seems to be the maximum and most effective dose not to be followed by an unusual number of complications.

Post-radiation complications which must be considered are cellulitis, from the implan-



tation of needles; hemorrhage, which may also be from the disease itself; stricture of the cervix, with subsequent pyometria; damage to the bladder, ureters or rectum, with subsequent strictures, ulcers, hemorrhage, and fistulae. Proper dosage, filtration and application will reduce these complications to a minimum, though, when they do occur, they should be appropriately treated. All patients should be warned in advance of such possibilities. This will avoid possible future lawsuits and unpleasantness.

All cases seen, except those very advanced with fistula formation, should be given the advantage of treatment from the standpoint of palliation, if not of cure. Marvelous improvement and even permanent cure is sometimes seen in apparently hopeless cases. All local evidence of the disease disappears, the bleeding and foul discharge stop, pain and anemia decrease, and the patient's general and mental condition is remarkably improved. Likewise, local recurrences in the vaginal and rectal walls, and in the cervical stump postoperatively, should all have the possible benefit of re-radiation.

Uterine carcinoma progresses chiefly by direct extension. It does not metastasize early. A larger percentage of radiated cases show metastases than do untreated or operated cases, but, as Jones<sup>26</sup> and Phillips<sup>36</sup> point out, such cases live longer and have time to develop such distant growths. As shown by Warren,<sup>45</sup> ureteral obstruction, anemia and toxemia are the more usual direct causes of death.

The end-results depend upon the extent of the disease when first seen, the degree of malignancy, and the effectiveness of the treatment. The following table of five-year cures by several operators for all cases seen, average 20 to 25 per cent. Here again the great advantage of early treatment is seen, cures ranging from 55 to 83 per cent in early cases.

	No. Cases	5-year cures	percentage	
Crossen <sup>12</sup>	121	22.3		
Burnam <sup>9</sup>	1,578	54.73	early cases	} Average 15.96
		11.35	late	
		11.25	recurrent	
Jones <sup>26</sup>	303	25.0		
Lynch <sup>28</sup>	192	19.3		
Ward and Farrar <sup>44</sup>	223	25.1		
Schmitz <sup>41</sup>	156	83.33	early	} Average 22.43
		42.85	mod. adv.	
		26.23	advanced	
		4.35	far adv.	
Healy <sup>18</sup>	1,574	55.0	early	} Average 22.5
		34.6	borderline	
		15.0	late	

*Cancer of the fundus*—In this location the disease remains localized longer than it does in the cervix and the results of treatment are much superior. If there is no evidence that the disease has extended beyond the fundus, surgery is indicated, though lately radium treatment alone is advocated by some eminent authorities. Bowing and Fricke,<sup>7</sup> from the Mayo Clinic, report that of 189 fundal carcinomas, 87 were treated by operation and radiation, and 102 by radiation alone. Of the patients operated upon, 31.16 per cent were well after five years, and 46.75 per cent of those treated by radiation alone were well after three years. Haupt cured 61 per cent of all patients by operation and Heyman 42 per cent by radiation alone. The general consensus of opinion is that operable cases give best end-results following operation, where about 50 per cent can be expected to obtain five-year cures. Lately it has been advocated that all such cases be radiated first as a precautionary measure, and some six to twelve weeks later these patients be subjected to panhysterectomy.

In 520 cases of cancer of the fundus, Ofert<sup>33</sup> found that 11.9 per cent had cancer of the ovary, and in 616 cases of cancer of the ovary, 8.6 per cent had cancer of the fundus. Therefore in all operations for cancer of the ovary the entire uterus should be removed, and it goes without saying that with cancer of the fundus both ovaries should be removed. Here again lack of time forbids any detailed discussion of radium treatment or operative technic.

#### Palliative Measures

In hopeless cases palliative measures are to be directed towards relieving pain by means of radiation, opiates, cordotomy, pre-sacral sympathectomy, and spinal injections of alcohol; relieving ureteral obstruction by catheterization and dilatation, or transplantation of the ureter into the bowel; intestinal obstruction by colostomy; and hygienic measures and transfusions for general physical improvement and mental support.

#### Prophylaxis

After all this has been said, we come to the question of prevention versus cure, or prophylaxis. It is quite apparent from the mentioned figures that carcinoma of the cervix is vastly more common in multiparous women, though carcinoma of the fundus is about equally common in nullipara. So far

as the cervix is concerned, the only difference is in the greatly increased frequency in multipara of traumatic birth injury, and the subsequent long continued chronic infection, inflammation and irritation, even up to ten to fifteen years. Cervices not lacerated or infected rarely, if ever, develop cancer.

We must use the term pre-cancerous with caution, and show that lesions so termed are frequently actually followed by cancer. Although infection of the cervix may not in itself be a pre-cancerous lesion, it certainly furnishes the necessary stimulus to subsequent cancer development. The following table will show that when old birth injuries are appropriately treated by cauterization, trachelorrhaphy or cervical amputation, cancer is a very rare subsequent development. Bland<sup>4</sup> gives a frequency of 1 in 1,000; here it is only 1 in 1,800.

Bossi <sup>8</sup> .....	7,000	Low Amp. D. & C....	0
Hunner <sup>24</sup> .....	2,895	Amp. or cautery.....	0
Pemberton and Smith <sup>34</sup> .....	3,814	Trachelorrhaphy .....	5
	740	Amputation .....	0
	1,406	Cautery .....	0
Saltstein and Topick <sup>38</sup> .....	18,500	Appropriate .....	15
Bartlett and Smith <sup>2</sup>	1,700	Cautery .....	0

McFadden and Salstein have collected 2,514 cases of carcinoma of the cervix, in which only thirty-four, or one in seventy-five, had had any previous cervical attention.

What means should be used to return the cervix to as normal a condition as possible will depend upon the lesion present. Beall<sup>3</sup> prefers cautery to trachelorrhaphy, Bursey<sup>10</sup> and Proctor<sup>37</sup> prefer the cautery for erosions and erosions and surgery for the gross lesions. Very extensive lesions are difficult to heal by cautery, trachelorrhaphy often does not completely remove all the diseased tissue, and amputation is contra-indicated in young women who desire more children, on account of the increased probability of later sterility, abortion and dystocia. Each case must be judged individually, and clinical experience will indicate the most appropriate treatment. The very important fact is, as emphasized by Crossen,<sup>11</sup> Hinselman,<sup>19</sup> Phaneuf,<sup>35</sup> Schmidt,<sup>41</sup> Bailey,<sup>1</sup> Schiller,<sup>39</sup> and a host of others, that all chronic irritative lesions of the cervix be prevented or at least eliminated at the earliest possible moment.

The knowledge that many cervical cancers are preventable is a challenge to the

medical profession. This constitutes a most profitable field for preventive medicine. Martin<sup>30</sup> states that a large majority of uterine cancers could be cured by known means which we have at our disposal, if these cases were only seen early enough.

Bloodgood<sup>5</sup> has long urged that a great many women can be saved by the correction of lesions which are frequently followed by malignancy, and by timely operations for early malignancy when the lesions are amenable to treatment.

Since really early cancer of the uterus produces no symptoms and may easily be overlooked clinically, we must urge that all women over thirty years of age, and especially multiparas, seek at least semi-annual physical examinations. At such examinations the patient's general physical condition, condition of heart, lungs, kidneys, breast and bowel should be determined, and especial attention be given her pelvic organs by such means as we have already suggested. We may not find a surprising number of early symptomless carcinomas, but we will be able to effect a cure in many cases of such lesions as are frequently followed sooner or later by cancer, and we will also discover most cancers at a far earlier stage than we usually see them today.

There is a great reluctance of people to face bravely radical procedures for the relief of painless and relatively symptomless conditions. At least half of all persons who die of cancer do so without the possible curative benefit of operation. We should emphasize the fact to patients that today radical surgery for the cure of cancer is not often fatal, whereas untreated cancer always ends in death within a relatively short time. There are other factors, not the fault of the patient, which sometimes contribute to this fatal procrastination. Hamant and Koenig<sup>17</sup> have summarized the situation as follows:

#### *Cause of Delay in Diagnosis*

##### *Patient*

1. Ignorance of symptoms; believes natural or menopause.
2. Takes advice of friends, midwives and quacks.
3. Pharmacists prescribe.
4. Fears the truth.
5. Economic—loss of time and expense of treatment.

##### *Physician*

1. Fails to examine patient.
2. Fails through lack of training or carelessness to recognize early cancer.
3. Inappropriate treatment.



### To Improve Present Results Patient

1. Education of public through schools, colleges, newspapers, movies and radio about early symptoms and prophylaxis.
2. Assure cancer is curable only if treated early.
3. Periodic health examination, especially pelvic examinations.

### Physician

1. Educational, instruction pre- and post-graduate on methods of early diagnosis, biopsy.
2. Prophylactic care of all cervical lesions.
3. Better obstetrical care.
4. Establishment of cancer clinics at many places available to all, manned by experts in cancer diagnosis and therapy and with every available means of treatment at their disposal.

We do not intend nor do we fear by this educational publicity to produce a cancer phobia and scare people to death, but in the words of Whitehouse, we hope, if necessary, to frighten them into a longer life.

1508 Keith Building

### Bibliography

1. Bailey, K. V.: *Surg., Gyn. and Obst.*, 50:513, 1930.
2. Bartlett, Smith: *Surg., Gyn. and Obst.*, Coll. Review, 58:1, 1934.
3. Beall, F. C.: *Texas State Med. Jour.*, 8:28, 1932.
4. Bland, P. B.: *International Assembly, Cleveland*, 1933.
5. Bloodgood, J. C.: *Am. Jour. Cancer*, 16:1238, 1932.
6. Bossi: *Zentralbl. f. Gynaek.*, 27:1000, 1913.
7. Bowing, H. H., and Fricke, R. E.: *Am. Jour. Roentgenol.* 36:738, 752, 1931.
8. Broders, A. C.: *Jour. Am. Med. Assn.*, 99:1670, 1932.
9. Burnam, C. F.: *Surg., Gyn. and Obst.*, 56:427, 1933.

10. Bursey, E. H.: *Texas State Med. Jour.*, 28:387, 1932.
11. Crossen, H. S.: *Mo. State Med. Jour.*, 29:105, 1932.
12. Crossen, H. S.: *Am. Jour. Obst. and Gyn.*, 26:686, 1933.
13. Davis, J. E.: *Am. Jour. Surg.*, 17:32, 1932.
14. Forgue, E.: *Presse Med. Paris*, 40:1461, 1932.
15. Fullerton, Wm. D., and Faulkner, R.: *Jour. Am. Med. Assn.*, 95:1563, 1930.
16. Graves, Wm. P.: *Surg., Gyn. and Obst.*, 56:317, 1933.
17. Hamant, A., and Koenig, R.: *Rev. Franc. De Gyn. et d'Obst.*, 27:52, 1932.
18. Healy, W. P.: *Jour. Am. Med. Assn.*, 97:1680, 1931.
19. Hinselman, H.: *München Med. Wchnschr.*, 78:1094, 1931.
20. Hofbauer, J.: *Am. Jour. Obst. and Gyn.*, 25:779, 1933.
21. Hoffman, F. L.: *Final results San Francisco Cancer Survey*. Prud. Press, 1929.
22. Hoffman, F. L.: *Address Belgian Nat'l Cancer Congress, Brussels*. Prud. Press, 1923.
23. Hoffman, F. L.: *Intern. Congress of Occupational diseases, Geneva*. Prud. Press, 1931.
24. Hunner, G.: *South. Med. Jour.*, 23:729, 1930.
25. Johnson, C. G., and Tyrone, C. H.: *Surg., Gyn. and Obst.*, 58:113, 1934.
26. Jones, T. E.: *Jour. Am. Med. Assn.*, 99:880, 1932.
27. Kanter, A. E., and Klawans, A. H.: *Am. Jour. Obst. and Gyn.*, 24:192, 1932.
28. Lynch, F. W.: *Am. Jour. Obst. and Gyn.*, 22:550, 1931.
29. Macfarlane, C., Howe, M. E.: *Am. Jour. Obst. and Gyn.*, 24:406, 1932.
30. Martin, F. H.: *Surg., Gyn. and Obst.*, 56:412, 1933.
31. Martzloff, K. H.: *Am. Jour. Obst. and Gyn.*, 24:57, 1932.
32. Mayo, C. H.: *Surg., Gyn. and Obst.*, 44:690, 1932.
33. Offert, S. R.: *Surg., Gyn. and Obst.*, 54:490, 1932.
34. Pemberton, F. A., and Smith, G. V.: *Amer. Jour. Gyn. and Obst.*, 17:163, 1929.
35. Phaneuf, L. E.: *New England Med. Jour.*, 206:840, 1932.
36. Phillips, E.: *Zentralbl. f. Gynaek.*, 56:45, 1932.
37. Proctor, I.: *South. Med. and Surg. Jour.*, 94:507, 1932.
38. Saltstein, H. C.: *Topick, A. A.: Am. Jour. Cancer*, 17:951, 1933.
39. Schiller, W.: *Arch. of Gyn.*, 133:211, 1928.
40. Schiller, W.: *Surg., Gyn. and Obst.*, 56:210, 1933.
41. Schmitz, H.: *Am. Jour. Obst. and Gyn.*, 24:159, 1932.
42. Spencer, H. R.: *British Med. Jour.*, 1:1157, 1932.
43. TeLinde, R.: *Jour. Am. Med. Assn.*, 101:1211, 1933.
44. Ward, G. G., and Farrar, L. P.: *Am. Jour. Obst. and Gyn.*, 22:543, 1931.
45. Warren, S.: *Arch. Path.*, 12:783, 1931.

## TUBERCULOSIS IN THE ADOLESCENT

D. S. BRACHMAN, M.D., D.P.H.†

DETROIT, MICHIGAN

The adolescent age is a crucial period in pulmonary tuberculosis, both in prevention and treatment. Adult type tuberculosis begins to appear more frequently at this time. A higher percentage of minimal tuberculosis, too, is discovered at this age period, resulting in earlier treatment and hence more cures. As infection is spread chiefly by the open adult type patient, beneficial preventive results will follow increased health activities among the adolescent.

The Case-Finding Unit of the Detroit Tuberculosis Sanatorium in coöperation with the Wayne County Medical Society, the Detroit Board of Education and the Detroit Department of Health, limited its school work the past year chiefly to the 11th and 12th grades of the high schools in metropolitan Detroit. In all 8,015 students were tuberculin tested (von Pirquet) and 1,861 positive reactors x-rayed.

†Dr. D. S. Brachman graduated from the University of Pennsylvania School of Medicine in 1912. Following the World War, Dr. Brachman spent ten years in England, where his practice was confined to tuberculosis. Since coming to Detroit, he has been employed as investigator for the Detroit Tuberculosis Sanatorium.

The procedure adopted was the same in all schools. First, a short illustrated talk was given to the teachers on the value of tuberculosis case-finding in the apparently healthy students. The teachers in turn were asked to explain the importance of the test to the pupils, issuing to them a printed explanatory permit slip for the parent's signature. Only students with signed permit slips were tested. Signed tuberculin per-

TABLE I. RESULTS OF TUBERCULIN TEST

School	Per Cent of Enrollment Tested	Number Enrolled	Number Tested	Per Cent Positive	Number Positive	Number Negative	Number Absent
1	94.22	571	538	38.5	197	314	27
2	82.03	462	379	23.3	85	279	15
3	70.75	1,193	841	30.3	255	585	4
4	68.32	1,468	1,003	31.5	304	659	40
5	65.98	967	638	14	87	533	18
6	64.78	619	401	48.8	191	202	8
7	55.90	1,152	644	28.6	182	454	8
8	52.88	450	238	32.7	75	154	9
9	52.29	1,048	548	24.9	113	340	95
10	47.37	418	198	37.5	68	116	14
Total East Schools	65.05	8,348	5,431	30	1,557	3,636	238
11	55.04	1,170	644	30.6	187	424	33
12	52.28	1,800	941	18.9	160	685	96
13	44.25	409	181	28.7	48	119	14
14	43.95	1,861	818	25.8	189	541	88
Total West Schools	49.31	5,240	2,584	24.8	584	1,769	231

TABLE II. RESULTS OF TUBERCULIN TESTS—AGE, SEX AND COLOR  
GENERAL AVERAGE 30.2 PER CENT POSITIVE

White					Colored				
Age	Sex	Positive	Negative	Per Cent Positive	Age	Sex	Positive	Negative	Per Cent Positive
14	M	52	130	28.5	14	M	9	6	60.0
	F	66	226	22.6		F	12	31	27.9
15	M	139	344	28.7	15	M	36	25	59.0
	F	195	620	23.9		F	37	59	38.5
16	M	248	716	25.7	16	M	44	43	50.5
	F	299	1,085	21.6		F	55	90	37.9
17	M	260	591	30.5	17	M	30	31	49.1
	F	261	720	26.6		F	41	52	44.0
18	M	129	243	34.6	18	M	28	27	50.9
	F	99	192	30.5		F	12	15	44.4
19	M	35	50	41.1	19	M	12	9	57.1
	F	10	23	30.3		F	4	1	80.0
Totals	M	863	2,074	29.3	Totals	M	159	141	53.0
	F	930	2,866	24.4		F	161	248	39.3



TABLE III. X-RAY RESULTS

School	No. Completing Examination	Adult Type No. Per Cent		Childhood No. Per Cent		Observation	Suspect Childhood	Pleurisy	Negative	Not X-Rayed
1	508	6	1.18	46	9.0	0	7	3	446	3
2	356	1	0.28	14	3.9	2	2	0	337	8
3	838	6	0.71	63	7.5	2	7	4	756	2
4	878	6	0.68	42	4.7	2	12	2	814	85
5	607	1	0.16	14	2.3	1	4	2	585	13
6	368	3	0.81	31	8.4	3	6	1	324	25
7	602	3	0.47	37	6.1	1	8	0	553	34
8	219	0	0.00	14	6.3	2	2	1	200	10
9	438	3	0.67	22	5.0	1	4	0	408	15
10	176	1	0.56	12	6.8	0	1	0	162	8
11	582	2	0.34	30	5.1	2	4	0	544	29
12	826	1	0.12	18	2.1	2	4	0	801	19
13	161	1	0.62	9	5.6	1	0	0	150	6
14	707	0	0.00	30	4.2	4	2	0	671	23
Total	7,266	34	0.46	382	5.26	23	63	13	6,751	280

mits were obtained from 65 per cent of the 13,588 enrollment.

There are twenty-five academic high and vocational schools in the community (including City X, within Detroit proper, represented by schools 1 and 3), fourteen of which were studied. Of these fourteen schools (Table I), the first ten are on the East side and the remaining four on the West side (East and West of Woodward Avenue). The percentage of tests given varied from 43.9 per cent to 94.2 per cent in individual schools, with an average of 58.9 per cent. The lower percentage actually tested resulted from absences through inclement weather, illness, et cetera. The 8,015 students tested, divided into 5,431 on the East side and 2,584 on the West side, gave respectively 30 per cent and 24.8 per cent of positive reactors. The school variation in the incidence of positive reactors interestingly coincides with the social-economic conditions in the areas drained. It is also apparent that a high rate exists in the schools of the predominately Polish and colored sections.

Dividing the results according to age, sex and color, ages 14 to 19, are itemized in Table II. In the whites there were 29.3 per cent positive among the males and 27.8 per cent in the females, while the colored gave 53 per cent positive in the males and 39.3 per cent in the females.

Those having a positive tuberculin reaction were x-rayed, the results of which are shown in Table III. Outstanding is the dis-

covery of 34 students with adult type disease, or 0.46 per cent of the total (7,266) completing the examination. There are also 382 childhood type cases or 5.26 per cent of the total. Twenty-five of the adult type students were hospitalized. Among the childhood type one student with soft glands at the left root developed tuberculous meningitis and died.

Adult type tuberculosis was found in 0.44 per cent of the white total and 0.84 per cent of the colored total. Schools 1 and 3, where the enrollment is 75 per cent Polish, showed 0.89 per cent of adult type disease. It is apparent therefore that in this series the adult type disease rate follows the trend of positive tuberculin reactors, the percentages in the colored and Polish being higher than the general average.

Analyzing the adult type findings according to distribution in the community, thirty cases or 0.6 per cent were found among the 4,955 East side students. Of the 2,276 students studied on the West side, on the other hand, only four or 0.17 per cent had adult type disease. Very apparent too, is the greater frequency of the disease among the females, in both white and colored—Table IV.

The finding of adult type tuberculosis in the apparently healthy adolescent is not a matter of chance. This is shown rather conclusively in Table V, giving the findings in Schools 1 and 7, which were tested annually for the last four years.

The last monthly report of the Depart-

TABLE IV. ADULT TYPE DISEASE—AGE, SEX AND COLOR

White			Colored		
Age	Number Tested	Adult Type	Age	Number Tested	Adult Type
14 years	M 182	1	14 years	M 15	0
	F 292	1		F 43	0
15 years	M 483	1	15 years	M 61	0
	F 815	7		F 96	0
16 years	M 964	3	16 years	M 87	1
	F 1,384	4		F 145	1
17 years	M 851	2	17 years	M 61	0
	F 981	5		F 93	4
18 years	M 372	2	18 years	M 55	0
	F 291	1		F 27	0
19 years	M 85	1	19 years	M 21	0
	F 33	0		F 5	0
Totals	M 2,937	10 - .31%	Totals	M 300	1 - .33%
	F 3,796	18 - .47%		F 409	5 - 1.22%

ment of Health (May, 1935) shows that 122 patients in the city were diagnosed as adult type tuberculosis. Of these, eighty-four or 69 per cent were favorable for treatment and the remainder twenty-six or 31 per cent had an unfavorable prognosis. In our thirty-four cases, all or 100 per cent were classified as favorable for treatment.

The degrees of involvement of the adult type disease are minimal, moderately advanced and far-advanced. Comparing the school case-finding results with those discovered by the usual means, the much greater proportion of early cases is immediately discernible, Table VI.

Analyzing our thirty-four adult type cases with reference to degree of involvement and color, we find in the whites that twenty-three or 82.1 per cent were minimal, and five or 17.9 per cent were moderately advanced, none far advanced. In the six colored five or 83.3 per cent were minimal and but one or 16.6 per cent was moderately advanced, none far advanced. Though in indecisively small numbers, these figures tend

to show the same degree of involvement for both white and colored in the adolescent age.

In the latest classified figures from the Department of Health, 147 patients (Table VI), the results in the colored, even more than in the white, show the diagnosis made at a later stage in the disease. In the whites the diagnosis is moderately advanced or far-advanced in 78.4 per cent of the patients, minimal in 21.6 per cent, while in the colored the figures are 90.4 per cent and 9.6 per cent respectively. The late diagnosis in the colored probably has some influence in their high mortality. Possibly this may be due to their economic position to a degree, although ample opportunities exist in Detroit for an early diagnosis.

The matter of contact history in the adult type disease is worthy of consideration. In the thirty-four cases found, a positive contact history was given in only five or 14.7 per cent. A low percentage has also consistently been found in our previous case-finding work and is significant when compared to the 32 per cent of positive contact



TABLE V. ADULT TYPE—SCHOOLS 1 AND 7—FOUR YEARS

School 1:	1931-32	1932-33	1933-34	1934-35	Total
Number of adult type	4	3	0	6	13
Per cent of adult type	0.63	1.17	0	1.18	.70
Number tested	626	255	452	508	1,841
Average percentage for four years: White 0.68% (12 in 1,732). Colored 0.91% (1 in 109).					
School 7:					
Number of adult type	14	2	2	3	21
Per cent of adult type	0.96	0.48	1.08	0.49	.79
Number tested	1,456	411	184	602	2,653
Average percentage for four years: White 0.74% (16 in 2,138). Colored 0.97% (5 in 515).					

TABLE VI. ADULT TYPE CLASSIFICATION (A) CASE-FINDING UNIT, (B) OTHER MEANS—DEPARTMENT OF HEALTH REPORT

A		Minimal	Moderately Advanced	Advanced
Ages 14-19 years	White (28)	82.1% (23)	17.9% (5)	0
	Colored (6)	83.3% (5)	16.7% (1)	0
	Total (34)	82.4% (28)	17.6% (6)	0
B				
Ages 16 <sup>7</sup> and over	White (116)	21.6% (25)	34.5% (40)	43.9% (51)
	Colored (31)	9.6% (3)	45.2% (14)	45.2% (14)
	Total (147)	19.1% (28)	36.7% (54)	44.2% (65)

history in adult patients (sixteen years and up) and 41 per cent in children, diagnosed by the usual means. One is inclined to feel that daily contact with large numbers of other students, teachers and workers may have some influence on this situation—that is, the contact source in students may be other than the usual family or household contact.

The analysis of the fourteen cases in school 7 in 1931-32 pointed very definitely to a girl with an active moderately advanced tuberculosis spreading the disease to five of her classmates. This girl had no symptoms and was active in the basket ball and hockey teams at the time of diagnosis. Incidentally, her own source of contact was discovered a year later when she learned that a man who had boarded in her home for two months died from tuberculosis.

Detroit and Wayne County has a tuberculosis service second to none. All resi-

dents can be immediately hospitalized without exception. All contacts have a diagnostic service open to them, including tuberculin test and x-ray. The social services through public and private welfare agencies give aid whenever needed. In spite of the equal services rendered to all residents, it is apparent that tuberculosis is not evenly distributed through the community. One must deduct, therefore, that factors are involved which may have definite effect on the tuberculosis situation.

It has generally been recognized that tuberculosis is chiefly a social-economic disease. One is not surprised therefore to find more tuberculosis on the East side of the city compared with the West side. (It appears that in most large cities of the world the East section has a large so-called poor area.) However, the disease is not proportionally distributed according to the eco-

conomic status alone of the areas in which the schools are located.

In our work two factors stand out—firstly, the rate of the disease in the colored and secondly the rate among the Polish, compared to the general average. The Department of Health deserves credit for its immediate hospitalization plan, which previously was the greatest obstacle to efficient handling of the problem. From the preventive and treatment point of view, the colored population is certainly to be congratulated on its coöperation. When the diagnosis of tuberculosis is made, they almost invariably accept the medical advice for hospitalization and hence immediate up-to-date treatment. In spite of this fact, however, and though the rate is decreasing, nevertheless it still remains high. One comes to the conclusion that the high rate is due at least in part to overcrowding, which is aided by the recognized low constitutional immunity of the race. There is also the probability of overwhelming doses of infection.

The Federal local slum clearance plan includes an area populated by colored people and, if properly managed, will eventually show an immense improvement on the tuberculosis rate, by removing the over-crowding. It is hoped that the Health Department will have an active part in the administration of the rehousing areas, as is the case in some European countries, so that hygienic and sanitary conditions will remain at the best. In some cities abroad a yearly lease is not renewable without the approval of the Health Department.

In the Polish population, it is recognizable that a large proportion have a marked dislike to hospitalization and it appears particularly so when the disease is tuberculosis. There are apparently both social and psychological factors involved, the correction of which is quite a problem. A comprehensive broad educational program is now being initiated and will be continuously pushed for several years. Coöperation in this movement has been promised by practically all groups in the area.

### Summary

Tuberculosis sometimes has an acute onset but much more often the onset is very insidious, the disease becoming moderately advanced before the patient is aware of being ill.

Adult type tuberculosis begins to appear

more frequently in the adolescent age. It is found more often in females than in males.

Overcrowding makes it easier for an active tuberculosis patient to spread the disease and probably in overwhelming doses.

A great part of tuberculosis spreading takes place within the family or household.

Tuberculosis is, however, also spread by long continued or frequent contact outside of the household and especially where there is overcrowding.

Tuberculosis may be spread in places of employment, education or recreation if necessary precautions are not carried out.

An x-ray of the lungs should be taken, with or without a preceding tuberculin test in the adolescent age and upwards, irrespective of the presence or absence of symptoms or abnormal physical signs.

A definite negative diagnosis of tuberculosis should not be made without a negative tuberculin test or x-ray.

In 1927 it cost the family and community \$10,000 to raise an average child to the age of eighteen. His value, in return, at that age has been worked out by Dublin to be \$29,000 and at the age of twenty-five his maximum value to be \$32,000. It is apparent then how large a financial saving—if one may for the moment talk in terms of dollars—a cure of adolescents would mean.

In tuberculosis the x-ray is even more indispensable than sputum examination and is necessary both in diagnosis and treatment.

Collapse therapy is more likely to be successful in unilateral lesions and when the duration of the disease is short. Early diagnosis is essential to successful medical and surgical treatment.

### Recommendations

High school and college students should be required to go through tuberculin test x-ray screening before being accepted for school teams.

Teachers and other school workers should be required to have an x-ray with or without a preceding tuberculin test.

Modern case-finding methods should be required in all places where people gather regularly, whether for work, play or food.

Rehousing is strongly recommended in every so-called slum area. This is especially true in certain colored districts.

More education is advisable among some Polish groups along the lines of inducing them to take advantage of hospitalization.



Boarders or lodgers should not be accepted, particularly in homes where there are children, without first having an x-ray of the chest.

Physicians may well carry out this case-finding program among the general popula-

tion, especially from the adolescent age upwards. This applies particularly to the poor sections of large cities where there is usually overcrowding. Here one might anticipate finding tuberculosis in approximately 1 per cent of the adults.

## ACUTE CATARACTS

### Presumably Due to Dinitrophenol Therapy

B. F. GLOWACKI, M.D.†  
DETROIT, MICHIGAN

The reports of the harmful by-effects of various "fat-reducing" remedies containing dinitrophenol should prompt the doctor to seriously condemn their prescription and their dispensing by pharmacies. Dinitrophenol and its derivatives have been declared non-acceptable<sup>1</sup> by the Council on Pharmacy and Chemistry of the American Medical Association.

After several years of controlled therapy by Tainter and his co-workers, the administration of this drug has been generally discouraged because of the frequency of undesirable and toxic symptoms reported. The most common of these is a maculo-papular eruption of the skin occurring in over 7 per cent of Tainter's cases.<sup>4</sup> Swelling of mucous membranes, disturbances in the sense of smell and taste, and more recently the rapid formation of cataracts have been reported in many young women taking "therapeutic doses" of the drug.

Loss of vision is a weighty price to pay in order to obtain a more slender figure. The following case history is briefly related to make us more alert to a new and serious manifestation which may follow the prolonged use of dinitrophenol.

A married woman of thirty-eight years gained weight very rapidly eight years ago following an operation producing surgical menopause. She weighed 204 pounds in the summer of 1934, when she began to take from three to five capsules of dinitrophenol daily. Over a period of seven months, approximately 870 capsules were taken, reducing her weight to 168 pounds. No more tablets were taken after the Christmas holidays, whereupon her weight promptly rose to 195, where it presently stands.

About March 1, 1935, the patient first began to complain of nervousness, insomnia and dimness of vision. The loss of vision occurred in both eyes nearly simultaneously, and on June 19, 1935, there remained no practical vision other than light perception in both eyes. The cataracts appeared intumescent and crowded the iris forward.

The urinalysis was negative; the Kahn test findings negative. Blood pressure was 124/74. Her temperature was 99, pulse 66.

If the formation of acute cataracts may be assumed to be due to dinitrophenol, we have as yet no more certain explanation for their occurrence than to say they are of toxic origin. However, the studies of MacBryde and Taussig<sup>3</sup> reveal that the drug causes clinical variations in the functions of the liver, resulting in definite increases in the elevation of the blood sugar curve in three-fourths of all cases. This hyperglycemia is comparable to diabetes, wherein the frequent incidence of cataract is well known. Fuchs<sup>2</sup> thought the lenticular changes were due to abstraction of water from the lens by the action of sugar-charged eye liquids.

To conclude with the words of MacBryde and Taussig, "The fact that the majority of our patients showed somewhat alarming functional changes emphasizes the question whether the use of a drug with so great potential dangers is justified in the treatment of a relatively benign condition such as obesity."

### Bibliography

1. American Medical Association: Reports of the Council on Pharmacy and Chemistry. *Jour. A. M. A.*, 105:31, (July 6) 1935.
2. Fuchs: *Ophthalmology*. Seventh Edition. J. B. Lippincott Co., Philadelphia, p. 639.
3. MacBryde, C. M., and Taussig, B. L.: *Jour. A. M. A.*, 105:13, (July 6) 1935.
4. Tainter, M. L., and Cutting, W. C.: Metabolic actions in dinitrophenol. *Jour. A. M. A.*, 101:2099, (December 30) 1933.

†Dr. Glowacki is a Fellow of the American Academy of Ophthalmology and Otolaryngology, and Attending Ophthalmologist at Providence Hospital, Detroit.

## BITTERLING PREGNANCY TEST

ROBERT G. OWEN, M.D., and H. E. COPE, M.D.†

DETROIT, MICHIGAN

A recent article by Kanter, Bauer and Klawans<sup>1</sup> proposed the use of standardized bitterlings as test animals for the laboratory diagnosis of pregnancy. By standardized, they meant fish which had been found to give correct reactions with urines from both pregnant and non-pregnant individuals.

Because our experience with these fish is so markedly at variance with the results reported, we feel justified in reporting our relatively small series of cases.

Our fish were obtained from the New York Aquarium and labeled as, *Rhodeus Amarus*. This is not the same zoölogical genus as used by Kanter but apparently another branch of the bitterling family. Anatomically, both fish appear to be identical, both having the same characteristic ovipositor. Our technic followed identically that of the original investigators. For the purposes of ease of recording, we called positive reactions in which the ovipositor became more than double the length of the ventral fin as + + + +; lengthening reaching beyond the fin as + + +; up to the end of the fin as + +; between the end and the middle of the fin as +, and any noticeable lengthening less than half the length of the fin as ±.

The fish were first tested with urines from known pregnant women, which gave a positive Friedman test, and about 10 per cent of the fish were discarded because they did not react. After the return of the ovipositor to normal size, the remaining fish were tested with urine specimens obtained from women who were not pregnant. For the purposes of standardization, we were at that time running groups of six fish, one to a bowl, with each specimen of urine. To our great surprise we found the first six fish all gave positive results with a urine which we obtained about twelve hours after the cessation of menstruation. Erratic results of a similar character were obtained with urines obtained from other non-pregnant women. We gave up any hope of standardizing these fish against negative urines, as with the negative specimens we used the majority of the fish gave false positive results. In a review of the results obtained, there seemed to be some correlation between false positivity and the menstrual period. We, therefore, in an at-

tempt to demonstrate the validity of this belief, have obtained from each of seven adult females three specimens of urine spaced as follows: (1) From two to seven days premenstrual; (2) twelve to twenty-four hours postmenstrual; (3) as near the midpoint of the interval as possible.

Table I summarizes our results.

We have in addition tested sixteen fish with five specimens of urine obtained from males. One of these specimens, which contained 0.2 per cent of glucose, gave + + reactions with three of the four fish used. Another specimen gave a + positive with one of two fish used; the third gave a + + positive with one fish out of two, and the other two specimens gave no reaction with four and two fish respectively.

In our small series of reactions obtained with urines from known non-pregnant women, there seems to be some correlation between this reaction and the menstrual period. All of the marked reactions in this series occurred with specimens obtained either pre- or post-menstrual. Interval specimens rarely caused any reaction. While our series is so small that chance may have caused this grouping, this still may be a suggestion as to the cause of the reaction.

The recent paper by Kleiner, Weisman and Barowsky<sup>2</sup> suggests that our grouping is a chance one, as they obtained false positive results with urines from four out of seven normal menstruating women and one out of four males. Post-menopausal specimens gave positive reactions with one of three specimens. They also report that two of their fifty fish gave positive results from simple handling of the fish without exposure to urine.

†Dr. Owen is a graduate of the University of Michigan, 1908, and Dr. Cope of Rush Medical School, 1922. They specialize in Clinical Pathology and are associated in the direction of The Owen Clinical Laboratory.



TABLE I. BITTERLING TEST WITH URINE FROM NORMAL MENSTRUATING WOMEN, SHOWING STRENGTH OF REACTION, TIME AND INTERVAL AT WHICH REACTIONS WERE OBTAINED

	Premenstrual Specimens	Menstrual Period	Postmenstrual Specimens	Interval Specimens
A.	± 3 days 3-30-35	4-1 to 4-5	+++ 3 days ++++ 4 days 4-6-35	0 4-18-35
B.	0 4-18-35	4-18 to 4-22	0 4-22-35	Not obtained
C.	0 3-30-35	3-31 to 4-5	0 3 days +++ 4 days 4-6-35	+ 3 days 4-18-35
D.	++ 3 days 3-19-35	3-19 to 3-24	0 3-25-35	± 3 days 4-9-35
E.	++ 3 days +++ 4 days 4-6-35	4-11 to 4-16	0 4-18-35	0 4-28-35
F.	++ 3 days 3-18-35	3-31 to 4-5	+ 3 days 4-13-35	Not obtained
G.	++++ 2 days 3-8-35	3-9 to 3-12	++ 3 days 3-13-35	0 3-27-35

### Summary

1. We are unable to confirm the results reported by Kanter, Bauer and Klawans.

2. Strongly positive results were obtained with seven out of twenty fish tested with specimens from non-pregnant women.

3. These false positives occurred chiefly in pre- and post-menstrual specimens. Interval specimens were usually negative.

4. False positive results were obtained with five out of sixteen fish tested with male urines.

1551 David Whitney Building

### References

1. Kanter, A. E., Bauer, C. P., and Klawans, A. H.: A new biological test for hormones in pregnancy urine. *Jour. A. M. A.*, 103:2026, (Dec. 29) 1934.
2. Kleiner, I. S., Weisman, A. I., and Barowsky, H.: An investigation of the new biological test for hormone in pregnancy urine. *Jour. A. M. A.*, 104:1318, (April 13) 1935.

## RECURRENT VOMITING\*

THOMAS B. GORDON, M.D.†

GRAND RAPIDS, MICHIGAN

Recurrent vomiting, cyclic vomiting, periodic vomiting, acetonemic vomiting or recurrent vomiting with acetonemia is undoubtedly not a single disease. Like the old terms rheumatism, biliousness or nervousness, it probably includes several separate diseases. Until we know more about the pathology and the underlying metabolic disturbance it should be kept as a clinical entity. Recurrent vomiting or recurrent vomiting with acetonemia is a better term than cyclic or periodic vomiting. There is no regularity in the recurrence of attacks.

Recurrent vomiting is a clinical picture seen usually in delicate, neurotic children, characterized by repeated attacks of uncontrollable vomiting, marked prostration and dehydration and increased acetone bodies in

the blood and urine. The attacks usually occur after fatigue or excitement, with some acute infection or following an anesthetic. The onset is usually between the ages of 2 and 5, and the attacks cease at or before puberty. The vomiting usually begins suddenly but it may be preceded by loss of appetite, coated tongue and languor. There

\*This paper was read before the section on Pediatrics, Michigan State Medical Society, at Battle Creek, September 12 and 13, 1934.

†Dr. Gordon is a graduate of the University of Michigan, 1909. His practice is limited to Pediatrics. He is a member of the Staff of Blodgett Memorial Hospital, Grand Rapids.

is often a moderate fever. The child looks very ill, the eyes are sunken, the face anxious. There is marked constipation and the urine is scanty and high colored. Most of these signs are the direct results of the vomiting and the dehydration. On the fourth or fifth day the child rather suddenly brightens up and asks for food, and in two days seems as well as ever. After a variable period another attack comes on.

True recurrent vomiting is seldom fatal. The fatal cases can be (1) unrecognized organic disease in the abdomen, (2) superimposed infection, or (3) dehydration, toxemia and circulatory failure. One hears more about high mortality rates in Europe and in South America than in the United States. This can be explained in two ways: (1) Many of the fatal cases are appendiceal abscess or intestinal obstruction with severe vomiting and acetonemia. (2) The practical treatment of ordinary patients is much better in this country and we are awake to the dangers of dehydration.

*Pathology.*—What happens in the body of one of these frail neurotic children following a party, a Christmas celebration, a circus, a long automobile trip or a hard afternoon's play? As yet we do not know, although there are several theories. Most of these children recover, so very little has been found at autopsy. The most characteristic finding has been fatty degeneration of the liver, which is probably the result rather than the cause. Various other abdominal conditions have been found such as appendicitis, congenital atresia, and duodenal kinks. A few cases have stopped having attacks after removal of the appendix or the relief of a partial obstruction. Recurrent attacks of appendicitis or recurrent obstruction may simulate recurrent vomiting but should be ruled out from this syndrome as separate diseases. Focal infection like chronic tonsillitis or pyelitis could so disturb body chemistry or sympathetic innervation or nutrition that it could cause attacks in a susceptible individual. It is certainly not the only cause.

It is quite possible that in some cases, but not always, an attack of recurrent vomiting is an allergic manifestation. Further study will be necessary to clarify this point.

The rôle of the internal secretions in relation to this syndrome is not yet understood. An attempt has been made to explain the

picture as a hyper-insulinism or a hyper-adrenalinism. While the internal secretions must take an active part in the abnormal metabolism of the attack, it is most likely secondary and not primary.

For a considerable time we thought that the acidosis was the result of the vomiting, and called it the acidosis of vomiting. Then someone discovered acetone in the urine before the vomiting started, and we looked upon it as the vomiting of acidosis. We can now safely say that the vomiting is not the primary cause of the acetonemia and that the acetonemia is not the cause of the vomiting. These two prominent signs are both the result of some common cause. One can have a marked acetonemia without vomiting and severe vomiting often exists without marked acetonemia.

Fortunately we are getting away from the term acidosis in this connection. One can even have an inorganic alkalosis with an excess of acetone bodies and the term acidosis would be misleading. Ketogenesis is just as apt to occur in alkalosis as in acidosis. The increased formation of acetone bodies in recurrent vomiting is only partially and indirectly due to the vomiting and the starvation. In some cases it precedes the vomiting, and in quite a number it persists for days after the vomiting has stopped. There are many theories as to the cause of this increase in ketone bodies in the blood and urine. (1) A rapid fall in blood sugar is quite the rule in recurrent vomiting. Theoretically when the blood sugar gets too low, there is a mechanism which makes sugar out of fats and proteins, and by-products of this process are the ketones and amino acids. The same thing happens to a lesser degree in pneumonia and other fevers, and after severe exercise. (2) Retention. The oliguria limits the excretion of the acetone bodies. The loss of chlorides by the excessive vomiting favors the retention of organic acids in combination with bases in the blood and tissues. (3) One can conceive of a central nervous system acetonuria. There are certain nuclei in the brain which have a definite positive effect on carbohydrate metabolism, liver function, and the secretions of the pancreas and adrenals. These centers can be irritated by bacterial, chemical or metabolic poisons or by abnormal mental stimuli. It has been proven that emotional influences can in-



crease the rate of oxidation of carbohydrates. (4) Several authors have attempted to explain the acetonemia on the basis of disordered liver function, with abnormal liberation of partially oxidized products of fat and protein metabolism. At present we can say that there is an over-production, and a retention of ketone bodies, but that the metabolic mechanism of this over-production is not yet fully understood.

The hypoglycemia which occurs in most of these cases has been explained in various ways: hyper-insulinism, increased secretion of adrenalin, increased activity of the vegetative or parasympathetic nervous system, a labile, unstable sugar regulating mechanism on a constitutional basis, increased oxidation of glycogen and deficient supply of stored glycogen in the liver. Numerous experiments have been conducted by Salmonsén of Oslo and others on the effect of sudden withdrawal of carbohydrates and feeding of high fat diets to normal children and to interval cases of recurrent vomiting. The results have not been very conclusive. They seemed to show that, in the interval between attacks, children with this disease responded much like normal children, and showed no abnormal sensitiveness of their metabolism to withdrawal of sugar or to a high fat diet. Both normals and recurrent vomiters showed a fall in blood sugar, and ketonuria and some vomiting, but after 2 to 5 days the vomiting stops, the ketonuria improves and the blood sugar rises. This seems to be added proof that sugars can be made from fats when necessary. Even in artificial fever from Sulfosin, interval cases showed no different metabolic reaction than normal. In all these experiments constitutionally frail children, whether they had cyclic vomiting or not, gave greater metabolic reactions to withdrawal of carbohydrates and addition of fats than strong, sturdy children. Salmonsén concludes that there is no evidence of pathological metabolism between attacks. Our former theory that children with recurrent vomiting have a peculiar metabolism which is especially susceptible to fever, to reduction of carbohydrate, or to addition of fat seems to have been weakened by the work of Salmonsén. As yet we have discovered no single characteristic metabolic peculiarity like one sees in diabetes, Addison's disease, hypothyroidism or hyperthyroidism or Froelich's syndrome.

Recently more stress seems to be placed on the initiation of these attacks by the influence of the central nervous system, acting through the vegetative or parasympathetic nerves. These constitutionally neuro-pathic children have certain centers in the brain which are easily stimulated by fatigue, excitement, fever, and by metabolic or other poisons. The resulting nervous response acting through the parasympathetic system causes vomiting and a severe metabolic disturbance, characterized by lowered blood sugar, marked ketogenesis, and a state of dehydration which makes the clinical picture. It occurs only in children because of the instability of the infantile metabolism, especially the mechanisms for maintaining equilibrium in all our body constants. Children are more water labile, more thermolabile, more sugar labile, etc.

From the standpoint of a practicing pediatrician, who is unable to indulge in metabolic studies, I have evolved a crude conception of the nature of one of these attacks. We see many evidences of protective reaction in childhood. For example, a child is sensitive to egg albumen. When a mother first feeds him egg, he reacts with a typical urticarial attack and warns the mother that he should not have it. Later on he reacts to repeated small doses with eczema. Still later he does not like eggs and takes them only when they are foolishly forced upon him. In a further protective way, by getting small amounts of egg in various hidden sources he gradually desensitizes himself and eventually loses his allergy to eggs. A second rather reverse example. We feed infants high carbohydrate diets. We put sugar in the milk and feed a lot of cereal, graham crackers, banana, etc. After the age of one year, mothers, for some unknown reason, decide that sugar is not good for children. The rapidly growing child needs a lot of carbohydrate so he develops a craze for sweets and begs for candy, ice cream and cookies. If he doesn't get them at home, he begs them from the neighbors or steals them. In a community way this need for sugar is looked after. On a long auto ride candy bars are sold at all the wayside stands, popcorn, peanuts and candy at the circus, and ice cream and cake are served at fatiguing children's parties. The refusal of food when a child is coming down with some acute infection, vomiting when certain harmful substances are taken

into the stomach, singing Sweet Adeline or Hail! Hail! the gang's all here! when there is too much alcohol in the system, to produce prolonged expiration, and breathe out the alcohol, are further examples of protective responses.

One can conceive of a highstrung nervous child who, as a result of psychic or physical strain, has an abnormal flow of impulses to the vomiting center and the sympathetic system. The resulting vomiting and metabolic derangement produces a toxemia, with low blood sugar and acetonemia. The only way to bring back his sympathetic balance and the equilibrium of his body constants is complete abstinence from food, and complete physical and mental relaxation. The therapeutic starvation is accomplished by the vomiting when anything is taken into the stomach. The vomiting and abstinence from food cause a lowering of the blood sugar and the initiation of the regulatory mechanism by which fats and proteins are made into sugar with the ketone bodies as byproducts. These ketone bodies furnish the sedative which produces physical and mental relaxation. The loss of chloride ions by the vomiting leaves fixed bases available to take up any dangerous excess of acetone, diacetic and other organic acids. Even the dehydration is to a certain degree protective as the oliguria inhibits too rapid excretion of these bodies by the kidneys. The constipation prevents loss of fixed bases which are valuable in neutralizing the organic acids. Our ketogenic diet and dehydration for the treatment of epileptic seizures is only a poor imitation of this natural therapeutic process.

Our former picture of the vicious circle established in this disease was all wrong. We thought the vomiting and the dehydration caused the acetonemia and the acetonemia increased the vomiting and the dehydration. If such were true, all cases of recurrent vomiting would die on the third or fourth day. In spite of much misdirected treatment, they nearly all recover on the third or fourth or fifth day. All the steps in the metabolism of this readjustment are not yet understood. I know, however, of nothing which directly contradicts the assumption that an attack of recurrent vomiting is a protective metabolic response on the part of a susceptible individual to an intolerable nervous and metabolic situation. The vomit-

ing center is stimulated through the afferent sympathetic or parasympathetic nerve fibers, which carry the impulse from sensory nerve terminals. This stimulation may result from (1) emotional overflow from excitement, anger, anxiety, et cetera, (2) fatigue, (3) toxic products of infection, (4) reflexly from appendicitis, obstruction or other abdominal disease, (5) chemical poisons like chloroform or apomorphin, (6) metabolic poisons as in liver disease, (7) allergy. Individuals may be more susceptible by (1) inheritance and constitution, (2) malnutrition, (3) ptosis, (4) focal infection, (5) previous disease, especially influenza and encephalitis, (6) any disease or condition which produces malnutrition, lowered general health, or irritability of the central nervous system. Usually the metabolic changes are secondary and not primary. It is an attack of severe vomiting with a sudden hypoglycemia and a whole train of complicated, essentially protective metabolic reactions, that are pathological only in the sense that they are exaggerations of the normal physiological responses and are not delicately and skilfully controlled, due to the immaturity of the infantile mechanisms. The attacks stop at puberty because the mechanisms for maintaining body constants become better regulated and more perfect at that time.

*The Prevention of Attacks.*—One should always make a thorough study of any child who has repeated severe attacks of vomiting. Appendicitis must be ruled out. A gastro-intestinal x-ray study should be made to discover possible kinks, bands of adhesions, congenital stenoses or other intra-abdominal peculiarities. Foci of infection should be looked for and appropriately treated. Tonsils and adenoids, sinus infection and pyelocystitis are the most common. Probably the eradication of foci of infection acts chiefly to improve the nutrition and make the child more sturdy both physically and mentally.

Most of these frail children have a poor posture and a marked visceroptosis. Proper support of the abdominal wall, improving the posture and the general nutrition by rest and diet, including plenty of fats and sugars, help to lessen the frequency of the attacks.

The foolish reduction of sugars in the diet of growing children keeps some of them frail and neurotic. The wild theory of cer-



tain dentists that eating sugars causes dental decay has harmed both the children and their teeth. You may remember 15 years ago that Kerley advocated marked restriction in both fats and sugars between attacks and the giving of soda to keep the acidosis away. In the light of our present knowledge this treatment is wrong. You cannot build a supporting cushion of fat in the mesentery and the omentum by taking away fats and sugars. It seems pretty well established that recurrent vomiting is not due to abnormal fat metabolism between attacks. Children need sugar and are less apt to have an attack if the supply of this quickly available food is kept up at all times and especially when subjected to fatigue or excitement or infection. A factor which is often overlooked is the mental and emotional environment in the home or school. Anything we can do to favor a restful, happy, harmonious atmosphere for these children will help to prevent attacks. Our oft repeated fresh air, sunshine, rest, avoidance of fatigue, adequate balanced diet, exercise and postural education are as im-

portant here as elsewhere in making the child physically, emotionally and metabolically stable.

*The Treatment of the Attack.*—The first indication, especially early in the attack, is to lessen the irritability of the central nervous system. This can be done by bromide and chloral, Luminal or other sedative by rectum, or sodium amytal, sodium luminal, codein or morphin subcutaneously. The dehydration must be minimized by giving fluids by the most practical route. It makes very little difference which fluid is used—normal saline, Ringer's solution or Hartman's physiological buffer solution. The hypoglycemia must be treated with glucose in some form. Unless the patient is in a hospital where it can be determined whether an inorganic acidosis or an alkalosis is present, I do not believe that soda should be used. I cannot see the logic in giving insulin to a child who already has a marked hypoglycemia. Adrenalin is of no use unless as a circulatory stimulant. If sufficient fluids are given, the acetoneuria will take care of itself. Medical Arts Bldg.

## OUTBREAK OF TYPHOID FEVER DUE TO CARRIER

C. H. BENNING, M.D.†

Director, Royal Oak Health District, Oakland County Department of Health, Michigan

Raw milk is frequently a serious source of infection in typhoid fever outbreaks, as the typhoid fever bacillus grows readily in this medium. The milk usually becomes contaminated at its point of origin on the farm, the source of contamination usually being a convalescing case of typhoid, a mild missed case or a typhoid carrier.

Typhoid carriers furnish the most difficult source of infection to find and to handle after discovery.

Their discovery is rendered difficult by the fact that they might be floating farm hands who move from farm to farm and whose addresses cannot be found after the outbreak of typhoid, or if they are permanent residents of the farm it is hard to convince these persons that they could be carriers of the typhoid germ at intermittent periods and are, therefore, always a menace to the gen-

eral public due to carelessness and a lack of knowledge of personal hygiene.

Two per cent of all persons who have had typhoid fever are stated to continue to discharge typhoid organisms in their stool or urine after recovery for varying periods of time and sometimes even for life.

In a four year study of typhoid fever in Washington, D. C., it was found that 10 per cent of all cases were apparently milk-borne.

Milk-borne epidemics have the following characteristics:

1. They curve abruptly, rise to a peak and subside sharply like water-borne epi-

†C. H. Benning, M.D., C.M., C.P.H., is a graduate of McGill University, Montreal, Canada, 1917. He received his certificate of Public Health at Johns Hopkins, Baltimore, Maryland, in 1925, and specializes in Public Health work. He was formerly with State Health Department, Lansing, Michigan. He is a Fellow of American Medical Association and American Public Health Association, member of the International Society of Medical Health Officers, Secretary of the Oakland County Public Health Association, and Secretary of the Metropolitan Health Officers Association. He was formerly Instructor in Bacteriology for Nurses at the St. Joseph's Mercy Hospital, Pontiac, Michigan.

demics, but they occur at any time of the year.

2. The cases occur on the track of a milk supply and are mostly confined to that area.
3. The cases are found among those who are large consumers of milk.
4. More than one case is apt to occur at the same time in one family.
5. The disease shows a shorter incubation period, probably due to the great amount of infection taken.

Unpasteurized milk is the most prolific source of infection in these outbreaks, but cream, ice cream, butter, buttermilk and fresh cheese may contain typhoid bacilli and thus occasionally become a means of transmitting the infection.

From the above facts it can readily be seen that typhoid fever carriers who are not aware of their condition or who are negligent in their personal hygiene, or who have a combination of these two factors, are a serious menace to a raw milk supply.

Due to lack of cleanliness, milk pails, the milk itself and even the water supply are apt to be contaminated at some time or other.

Typhoid fever has been a rare disease in the territory supervised by the author of this monograph. In fact, according to the records of the Health Department, no cases have been reported in this section for the past five years, and only forty-five cases for the whole county. The forty-five cases were spread as follows: 1930—nine cases; 1931—nine cases; 1932—five cases; 1933—five cases; 1934—seventeen cases. This being an average of nine cases per year.

In the latter part of May, 1935, the 29th to be exact, it was reported to us that a case of typhoid had been admitted to a hospital at the county seat with a clinical diagnosis of typhoid fever.

As is the rule of the department, an immediate investigation was launched as to the possible source of infection. From this lead we have brought to light eight cases of typhoid, and have traced the source of infection to a typhoid carrier who sold raw milk to the families with the cases of typhoid, as well as using it in his own household.

Reports of the first cases were slow in being reported to the Health Department due to the fact that the physicians in charge stated they did not know where to report

the cases and in some instances had some difficulty in recognizing the disease.

The history of the outbreak is as follows:

A farmer whom I shall call "A" bought a cow in 1933 and sold milk to a man living in a neighboring county as well as to transients; in 1934 he duplicated this performance, but in 1935 he enlarged his clientele to four families.

"A" started selling milk about the middle of April, 1935, and the first case was reported early in May. From then on, the other cases made their appearance.

Among the cases and one of the first, was the son of this farmer "A," who had been out of work since January and had stayed home to help on the farm.

All of the patients gave a history of drinking raw milk from the farm of "A." Vegetables, fruits, et cetera, which were obtained from widely different sources could not be linked up as a causative factor in these cases.

On investigation "A" gave a history of typhoid fever in 1926; since then, according to his own statement, he has been in perfect health.

No other cases of typhoid at any other period can be traced to this man.

Laboratory examinations of specimens of feces from this man were positive for *Bacillus typhosus*, and the Widal test gave positive findings in a dilution of 1-640.

All of the eight cases gave positive laboratory findings for typhoid fever. One person has died, the wife of carrier "A," who contracted the disease while nursing her son, one of the first cases.

Another carrier was discovered in this small group of cases, who shall be designated as "B." This man had what he thought was typhoid fever in 1912. Specimens of stool from him were positive for *Bacillus typhosus*.

The wife of "B," although giving no history of any symptoms of typhoid fever, was found positive for *Bacillus typhosus* when her urine was examined. It is an academic question here as to whether she became a carrier of *Bacillus typhosus* from contact with her husband prior to this outbreak, or whether she developed the carrier condition since drinking the raw contaminated milk. It is obviously impossible to decide this interesting point at the present time. Due to this history we hesitate to call her



a permanent carrier until a further lapse of time.

As far as can be discovered, "B" has never been a source of contagion. This is probably due to his occupation as salesman in a feed store where the possibilities of pollution of foodstuff are negligible.

Both these carriers have been informed of their condition and urged to take the necessary steps to clear it up. Both have signed typhoid fever carrier agreements with the State Department of Health, which prohibits them from handling milk or milk products and vegetables and fruit for public consumption until such time as their condi-

tion is declared harmless to the general public.

The epidemiological history of this outbreak is a convincing argument in favor of the use of pasteurized milk or the boiling of milk where a pasteurized milk supply cannot be obtained.

This is a classical exposition of a typhoid fever outbreak due to the combination of two factors, a raw milk supply and a carrier who was unaware of his condition.

The outbreak was fortunately confined to a small group of persons, eight in number, due to the very limited quantity of milk handled by the carrier.

### THE PROPER TREATMENT OF CONCOMITANT CONVERGENT STRABISMUS

LEO J. CROLL, M.D.†

DETROIT, MICHIGAN

So disfiguring a defect as squint did not escape the attention of the very earliest of medical writers. It was considered in ancient times a permanent defect, an affliction or punishment sent by a displeased deity. Hippocrates observed the comitant variety of squint and considered that it was due to epilepsy, or that it was an hereditary taint, noticing that a parent with a crossed eye often had a cross-eyed child. Paré attributed squint to the defective position of the child in the cradle. From 1727 to 1737 appeared John Taylor of England, one of the first to resort to operative measures for squint, who traveled throughout the continent demonstrating his operative procedure for its cure. His operation, which consisted mainly of cutting the belly of the rectus internus muscle, and the complete detachment of the muscle and capsule, was attended by such glaring deformities, consisting of external deviation, sunken caruncle and exophthalmos, that this operation for squint was soon discarded. It was not until 1903 when Claude Worth brought forth his fusion theory of strabismus that we really began to understand the problem.

From this date until the present time, there have been devised many different kinds of operations for straightening crossed eyes. But in all of these was the element of inexactness in the pre-operative measurements of the squint and want of proper gauging of the operation, and hence the results have been exceedingly poor. So we come now to our present understanding of

squint, which has been entirely revised in the last ten years, whereby the squint is accurately measured before the operation. The operation becomes, therefore, an exact procedure, not a hit and miss affair.

Concomitant convergent strabismus or squint (these terms are interchangeable) is characterized by the power of the crossed eye to follow the movements of the other eye in all directions, and the angle of squint always remaining the same size. Concomitant strabismus thus refers to the type of squint in which the amount of deviation remains the same, whereas non-concomitant strabismus refers to the type where the deviation changes considerably as the eyes are carried in different directions.

Concomitant convergent strabismus may be caused by many factors. There are four prevailing theories, which I will merely mention.

1. The muscular theory—which attributes the defect to an over-acting muscle.
2. The accommodation theory of Donders—which claims that squint is due to a

†Dr. Croll is a graduate of the University of Michigan, 1925. He served internships in the Maryland General Hospital, Baltimore, Maryland, 1925-1926; at the New York Ophthalmic Hospital, 1926-1927; and at the Brooklyn Eye and Ear Hospital, 1927-1929. He is on the Staff of the Grace Hospital and North End Clinic.

disturbance of convergence and accommodation.

3. The nervous theory.

4. The fusion theory of Worth—which is the most widely accepted theory. I shall elaborate somewhat on this one. In the human being, there are two retinae so placed as to have corresponding parts. The right or nasal half of the right retina corresponds with the right or temporal half of the left retina, and vice versa. Fusion demands such adjustment of the macula that the image of an object seen will fall on the macula of each eye. These images in turn are sent to the cortical center of vision in the brain and stimulate the same set of cells, and the two images on the two retinae make but one cortical stimulus, and one impression, and only one object is seen. The uniting of the two retinal images into one mental image is called fusion. Thus the lack of fusion sense causes squint. Although the location of a fusion center is not definitely established, a defective fusion may be caused by a lack of connection between the vestibular centers and the descending central visual radiating fibers.

What happens to a cross-eyed child whose defect is not properly treated? He develops an acquired amblyopia, or loss of the sight of the crossed eye, due to disuse—a condition known as amblyopia exanopsia. How does this come about? There are two areas of the fundus which need to be considered: the macula or point of clearest vision, and the eccentric or peripheral vision. The image on the macula of the crossed eye is not the same as that on the macula of the fixing eye, and this might give rise to some conflict between the two maculae, producing confusion and diplopia. However, voluntary suppression of the image on the macula of the squinting eye readily occurs. Diplopia is abolished by the suppression of the peripheral image in the squinting eye. This development of amblyopia occurs during the early period of childhood. At the age of six or seven years, the neglected child has lost most of the function of the crossed eye, and the most we can hope for at this stage is a cosmetic result. Doctor Wilkinson of Washington states that most of the patients who appear to recover from crossed eyes as they grow older have done so at the expense of the loss of that eye, for they seldom, if ever, have vision in the previously deviated

eye. A blind eye has a marked tendency to deviate outward—which fact can explain many of the so-called cures.

The differential diagnosis of comitant strabismus, which is a functional disturbance, from a paralytic squint, which is a pathological condition due to a lesion of the nerve supplying the affected muscle, is readily made.

It should be understood that squint is curable in its incipency, though it is difficult and often impossible to cure neglected cases. These neglected cases cannot be cured by a simple operation, and the mere fact that we get a cosmetic result does not mean a cure at all, but simply the relief of a deformity with the loss of a functioning eye. There is a great deal of new interest in the subject of orthoptic training for strabismus, the end-results of which will be closely watched.

The optical correction is our primary aim in the treatment of every case of strabismus. The treatment of squint is divided into the non-operative and the operative. The non-operative or medical treatment of squint consists of:

1. Prescribing the proper glasses, and full correction given the squinting eye. The degree of strabismus is measured both for far and for near, and the measurements are repeated several times.

2. Atropinization. Its main use is to produce an increase in monocular visual acuity, and also binocular vision. The patient is advised to use drops of one per cent atropine in the fixing eye three times daily for three days, and to repeat in three weeks. Guibor states that best results are secured when the visual acuity of the fixing eye is made equal to or somewhat less than that of the squinting eye, by atropinization.

3. Orthoptic training. This is accomplished by use of the stereoscope and charts with which one may train fusion and increase fusion amplitude. In a recent work by Guibor of Chicago, he lays great stress on orthoptic training and feels that he gets good results after a period of daily training varying from five months to one year. Orthoptic training is indeed essential both before and after operations.

When is the proper time to operate? After the patient has been using glasses, atropine and orthoptic training for six months to one year, and it can readily be



seen that there is little or no lessening of the degree of squint, an operation is indicated. Operation should be advised as early as possible, and, following squint surgery, orthoptic exercises again begun.

The mere operation does not cure strabismus, but is a necessary step in the treatment, the aim of which is to re-establish the harmonious working of the movements of both eyes, as required for perfect binocular vision.

By far the greatest advance in eye muscle surgery has been the introduction of the recession operation by Doctor P. C. Jameson, of New York, under whom I had the good fortune to work for several years. With the advent of accurate operative procedure, the operations of tenotomies and partial tenotomies, all of which left much to be guessed, as to what the ultimate effect might be, are gradually being discarded. Jameson's recession operation is based on the principle of scleral suturing, the ability of attaching the muscle to the sclera, which is made of yellow elastic and white fibrous tissue, and so is readily able to anchor the muscle and to hold it wherever it is attached. In recession operations, Jameson gives the following rule: *For every five degrees of required correction, the muscle should be moved back from its insertion one millimeter.*

The operative procedures in use today at the leading eye clinics are those of recession and advancement. The recession type of operation relaxes the muscle by direct relaxation of the deviating muscle, whereas, an advancement increases the tension of the opposing and also of the operated eye muscle. The recession type of operation requires a special technic, but is not difficult to master. In brief, the muscle is detached from its insertion and reattached to the sclera by scleral suturing at the exact place indicated by your previous measurements.

When should a recession operation be performed? When the rectus internus or muscle involved is over-developed, hypertensive, and hyperactive. There are four tests to determine when to do a recession operation:

1. Obtain the near point of convergence. (Instruct the patient to concentrate both eyes on a white headed pin and gradually approach the eyes with the pin, and the near point of convergence is at the point where one eye goes outward.) A near point of convergence of fifty millimeters or less means a hypertensive muscle, whereas a remote near point of convergence of seventy or more millimeters means a relaxed muscle.

2. Obtain the prism diopter of deviation—Duane screen test. If deviation is greater for near point than for distance, a hypertensive muscle is indicated.

3. Excursion tests. If the eye does not falter in the cardinal directions of gaze and goes under the semilunar fold, that is, vigorous muscular excursions, it further indicates a hypertensive muscle.

4. At operation, examine the muscle and the muscle capsule to determine whether it appears to be over-developed and over-active.

When should an advancement operation be performed? The type of advancement operation to which I am referring combines the advancement and the resection operations. In brief, the insertion of the muscle is advanced toward the cornea and at the same time a section of it excised, the amount excised depending on previous measurements. An advancement operation accomplishes its effect by increasing the tension on both sides, that is, increases the tension on the internus and the externus. An advancement operation should be done if the muscle is not of the hypertensive type, if the near point of convergence is remote, and if the excursion tests are feeble.

620 Maccabees Bldg.

### References

1. Donders, F. C.: *Anomalies of refraction and accommodation*. London: New Sydenham Society, pp. 292-296 and 301-303, 1864.
2. Duane, A.: *Fuchs' Textbook of Ophthalmology*, pp. 786-789.
3. Guibor, G. P.: Some possibilities of orthoptic training. *Arch. Ophthalmol.*, pp. 433-461, (March) 1934.
4. Jameson, P. C.: *Arch. Ophthalmol.*, 6:329-361, (September) 1931.
5. Jameson, P. C.: *Arch. Ophthalmol.*, 8:654-668, 1932.
6. Wilkinson, O.: *Strabismus—Its etiology and treatment*. St. Louis: C. V. Mosby Co., 1927.
7. Worth, C.: *Squint*. Philadelphia: P. Blakiston Co., p. 53, 1920.

## AN AEROPLANE VIEW OF MEDICAL PRACTICE IN EUROPE

LOUIS J. GARIEPY, B.S., M.D., F.A.C.S.†

DETROIT, MICHIGAN

There is a feeling with many persons that in order to speak authoritatively, one must spend months or years in a country about which he assays to write. There may be a great deal of truth in this. However, there is a certain value in first impressions, since often first impressions are only deepened and verified by more prolonged acquaintance with the situation. I offer this for what it is worth with the statement that I vouch for the substantial accuracy of the interviews recorded.

Firmly believing in the sales slogan, "Ask the man who owns one," we determined some months ago to visit England, Belgium, Germany, Switzerland and France and there ask the men who "owned" State Medicine and Voluntary Insurance Medicine, how they liked their article. Having watched with interest the activity of State and County Medical Societies in the past few years regarding medical economics and realizing that the medical profession must assume the main responsibility in all matters pertaining to people's health, we insist that this obligation must be recognized by organized medicine and the practicing physician at this time. This most important principle, *i. e.*, that the profession must make itself responsible for the quality of medical care which people receive at its hand, forces us to realize also that the organization of the medical profession under lay administration has a social outlook, and a lack of the professional outlook which results only in confusion, inferior professional service, and interference with medical progress.

## Types of People Interviewed

Feeling that statements from organization leaders might be colored and therefore not represent the attitude of its constituents, we interviewed people who were integral parts of socialized medicine or of the panel system, and they understood our questions and spoke freely of their experiences. In England we conversed freely with the conductor, and the guard on the train, the laborers about the depot, the hotel porter, the clerk at the drug store, the clerk in the dry goods store, and taxi drivers. We approached these people and ex-

plained to them why we inquired about their medical care. We obtained the following information very readily: All felt that their panel system was very satisfactory.

They knew of no other form of medical care for they had grown into it. The conductor and guard especially elaborated at length as to their panel doctor. Both stated they had one of the finest panel doctors in England. Their doctor had 2,000 patients and consulted his patients in the morning, seeing thirty of them in thirty minutes. On closer inquiry we found that very little examination of the patient took place, if any, and no laboratory tests at all were done. In every case the patient entered the office with his own diagnosis and received the medicine that he himself prescribed or that was suggested from his description of his symptoms. At Saint Thomas Hospital two resident surgeons were interviewed. They felt that the panel system was very vicious. It did not give them any incentive to progress. They choose to enter the army or navy for their final and life work after finishing their hospital training. An admitting clerk in the London City Hospital spoke freely of the panel system, but said that he thought it favored "chiseling" to a very great extent. The Chief of the Out-Patient Department of a London hospital spoke freely of the panel system and told us of how his out-patient department had increased greatly in numbers in the last few years; also of the improvement in the type of medical service rendered to these panel and the indigent patients. But he felt the system was not the proper one as it now existed, because the attending men in the out-patient department, who had a private practice outside, were not paid, but gave freely of their time three days a week to care for indigent people. These attend-

†Dr. Gariepy is a graduate of the University of Michigan, 1922, receiving both his B.S. and M.D. degrees there. He interned at Rhode Island Hospital, Providence, R. I., Providence Hospital, Detroit, and was Resident on Gynecology Service at Receiving Hospital, Detroit, also Resident Surgeon. He is Attending Gynecologist at Providence Hospital, Detroit, Attending Surgeon at Redford Receiving Hospital and Chairman of the Executive Committee of the American College of Surgeons for the State of Michigan.



ing men also acted as consultants to the panel doctor without charge or financial remuneration and also had to spend their own money to have the consulting reports typed and mailed to the panel doctors. All private cases of attending men were cared for in private hospitals called Nursing Homes. Reputation was all that the attending men might hope to obtain from the service rendered the indigent and panel patient.

An Assistant Dean of a College of Medicine felt that the social agencies were forcing the medical practice to increase the wage limit for the panel patient from \$1,200 a year to include all wage earners without limit. An attending surgeon spoke of the panel system as being quite adequate at this time for the young men starting in practice, but the old men did not like it. From his conversation we gathered that a great deal of surgery was done on the outside by panel doctors who were not equipped to do the same and only the very serious and incurable cases were turned to the attending surgeons of these hospitals. We then consulted a doctor who was pointed out to us as having one of the largest panels in London, and after waiting in his reception room, which, by the way, was poorly kept, poorly furnished, and filled with ten panel patients (these panel patients were seen in about fifteen minutes' time; very little or no examination was given to them), we then approached the doctor, explained to him who we were and asked him if he would answer a few personal questions for us. This he did in the following manner: He had been in practice ten years. His practice consisted of 2,000 panel patients. He was paid about \$1.66 a year for each patient. He also had some insurance patients. His total income was \$5,000 a year gross. He was compelled to answer house calls at any time, day or night. He did all the work he could in his office and in the patient's home because he did not want to lose any of his panel cases. He was proud of the fact that he had a large panel and was satisfied with it. He showed us a great number of cards and papers that he was forced to fill out in each case so that he might collect his fees. He finished his interview by saying that a panel doctor acted as a clearing house for a patient who wanted papers signed and medicine and could not obtain

the same without a doctor's prescription. He was unable to do any private work whatever, but was happy with his circumstances. He employed an assistant to help him whose salary was paid from the gross income. He rarely hospitalized pneumonia cases.

### The Care of Indigents

It is traditional in the medical profession that the doctor will care for medical needs of indigent patients without charge. In the past, when the organization of society was much simpler than at present, it was not difficult for the physician to determine who was entitled to his free services, and it was understood by the society that the doctor was taking such a risk with no expectation of remuneration. Today, however, so many other factors have entered into medical care that the simple relationships of the past are obscured. The doctor still gives his services to the poor, but he rarely receives credit for it either in the minds of the patients or the community at large. Most patients do not want it known that they are indigent and the community likewise shields this fact. It has been my experience that the patients who are cared for at public expense in our city hospitals or county institutions quite commonly believe that the institutions of the city pay the doctor for their medical care and for this reason they demand services and obtain them. Because of this misunderstanding by the patient and all concerned it is still the universal practice for physicians to perform service without pay for indigent patients. From this practice it has developed that physicians are not expected to make any charges to patients in city or municipal hospitals, even though such patients are capable of paying their hospital charges and doctor bills. This is especially true in all insurance case patients whether automobile insurance or compensation insurance. The hospital collects their bill from the insurance company but the doctors are not paid. The medical care is never paid for in city or municipality hospitals. The gift of these services on the part of these physicians is so taken for granted that they are now expected to furnish medical care without charge to free and ward patients in hospitals and municipal institutions, and also give the time and cost of transportation to and from such in-

stitutions wherever in the community they may be located. In England a very small sum is allowed the attending men annually for teaching internes and \$50 is allowed to them yearly for transportation cost to and from the hospital. All hospitals, as they call them in England, are supported by good will donations and each indigent patient is forced to give to the hospital in proportion to his earnings. The deficit is made up by good will offerings.

### Comments on the English System

In spite of the fact that the English system has made a separation in administration of cash and medical benefit, there is still cause of much friction between the insurance societies and the medical profession because a physician must certify to the disability for cash benefit. This results in an elaborate system of checking up on a physician's diagnosis and treatment of a patient. It is an established fact that the incidence of sickness per capita is greater than before insurance and panel became effective. This point was readily stated by people in a position to know, namely doctors and out-patient heads. The average hospital days for operation are greatly lengthened in England, namely instead of from seven to ten day period hospitalization for an appendectomy, the hospitalization is usually fourteen to twenty-one days.

### Belgium

In Brussels we visited the clinic of Dr. Mayer, who received us graciously, showing us about his clinic and talking freely of the medical practice in Belgium. There is a voluntary form of insurance existing in Belgium, but it is not very popular. The indigent is cared for in the same manner as we here in Michigan care for our indigent. The one fact that impressed us most in the care of the low wage earner was that surgical fees were reduced to about one-third of what is usually paid to us here. The lay opinion of the American Express men, hotel men and taxi drivers verified the opinion of Dr. Mayer that every one was well satisfied with the present health service. When they were sick they called their own family doctor and paid him for his services, which of course was about one-half of what our average bill would cost.

### Switzerland

Our investigations in Switzerland among medical men and lay people in similar walks of life gave us the same information that we obtained in Belgium. There were no compulsory medical laws, no health insurance plan, but a voluntary health insurance and a working men's compensation law. Indigent cases were cared for as before stated by City and State. A rigid investigation precedes a declaration of indigency for the patient. According to the night clerk in the hotel if he were taken sick he would call his family doctor and when he had no funds he would then be turned over to the city or county hospital for care. If he were hurt while at work, the insurance company would pay his doctor to care for him. A doctor whom we found in his office verified this statement and said that there was also a voluntary health insurance system that was not very popular.

### Germany

In Germany, we visited Cologne, Mainz and Heidelberg. American Express men, hotel men, boat employees, store clerks and milk men were interviewed. From these lay people we were told of a voluntary insurance plan, but none of them left the impression with us that any health insurance was compulsory. Their health plan gave them the privilege of selecting any doctor they wish. The rate of insurance is 1 per cent of the weekly income deducted by the employer and forwarded to the State. The doctor in his turn is paid by the State a very definite fixed fee. All lay people are very well satisfied with this condition. The doctors interviewed were the English speaking doctors in Heidelberg. They spoke of dissatisfaction among practicing physicians because of their low income in proportion to their total investment. They felt this panel system also removed all incentive to progress. As a matter of fact, these men in hospitals felt their only chance of progression was to remain as an understudy to the professors and some day supplant them. This opinion that hospital trained men had no desire to do private practicing was borne by one and all. It is difficult to state what the monthly income of the practitioner in Germany is, but we were assured by them that it was extremely low. In several places throughout Ger-



many different arrangements were made to pay the physician; some were full time physicians; some on a fee basis, and others per capita. The cost of medical care, we are told, has increased four times its figure of twenty years ago. There is no doubt that the principal cause of the disproportionate increase in expense over income is due to the phenomenon that always accompanies sickness insurance, namely the per capita days of sickness has tripled in this time.

#### France

France did not pass a compulsory insurance law until 1928 and it was not effective until 1930. The terms of the law provide that the physician shall deal with a patient in much the same manner as in private practice. The fee to be paid is arrived at by mutual understanding between the patient and the doctor. There is an official fee schedule used as a basis for reimbursement. The physician makes his charges on a basis of a simple medical act and all of their medical work is a multiple of this. When the patient presents the doctor's certificate to the insurance company he receives a fixed percentage of the scheduled fee for reimbursement. The patient pays the doctor his fee at the time the service is rendered and collects from the company to reimburse himself to whatever extent that he can. The French plan includes all paid workers from sixteen to sixty years of age who earn up to 300 francs or \$20.00 a week, the employer and the employee contribute to this plan. A married man carries his insurance for himself and his family. If he is the only one working in the family he will receive compensation to pay for the sickness of himself, his children or his wife. If the wife and husband should both work the children will be insured under the husband's policy and the wife's insurance will cover herself only.

The information obtained concerning this health insurance was from the sisters of charity, nurses, doctors and internes of the American Hospital in Paris, clerks in stores, hotel employees and taxi men. The lay people, as a whole, are in favor of this system; the doctors favor this system also, for the care of the low wage earner admits considerable chiseling and considerable difficulty in filling health certificates. The indigent people are cared for in municipal hospitals in much the same manner as we

care for our indigents here. All doctors give their time without financial remuneration. Private patients in Paris pay considerably more for their hospital care and doctor's fee than the average are charged here in Michigan. For example, a three bed ward in the American Hospital of Paris for an obstetrical case for fourteen days would amount in dollars to \$140 for hospital care and the doctor's fees are approximately the same as the hospital bill.

#### Conclusions and Recommendations

1. The medical practice in the panel system as practiced in England, Germany and France does not measure up to the medical standards we, of the medical profession, have established here in the United States for the care of the low wage earner.

2. Belgium and Switzerland have much the same systems as we have and all are contented. The social worker, though, is trying to socialize medicine. The low wage earner and indigent are well cared for.

3. Our indigent people are best cared for in the United States as at the present time, namely, in municipal and county hospitals, serviced by internes and residents on all full time, the attending men to act as teachers and instructors on part time at a nominal fee to be paid by County or State or City. Transportation charges to and from the hospital should be borne by City or County and not by the doctor.

4. All City and County Physicians should be appointed for a two year period after a competitive examination conducted by a board composed of the member of the faculty of both Medical Schools and County Medical Societies and should be full time physicians. The supervisor shall be a medical man capable of consultation and teaching these doctors. This two year appointment should be staggered.

5. The low wage earner is best cared for by us under the Pino plan providing the hospital bill is on a flat rate schedule as for State cases, and doctors' fees is the balance of a total bill for major work not to exceed \$120. This bill should be distributed over a period of a year and payable in bi-monthly or monthly installments in five or ten dollar payments. All other surgical and medical acts should be considered as a multiple of this standard. All wage earners whose yearly income does not exceed \$1,200 a year should come under this plan.

# THE JOURNAL

OF THE

## *Michigan State Medical Society*

---

### PUBLICATION COMMITTEE

J. EARL McINTYRE, M.D., Chairman.....Lansing  
 A. S. BRUNK, M.D.....Detroit  
 HOWARD H. CUMMINGS, M.D.....Ann Arbor

---

### Editor

J. H. DEMPSTER, M.A., M.D.  
 5761 Stanton Avenue, Detroit, Michigan

---

### Business Manager

B. R. CORBUS, M.D.  
 2642 University Avenue, St. Paul, Minnesota, and  
 313 Metz Building, Grand Rapids, Michigan

---

SEPTEMBER, 1935

---

## EDITORIAL

### SOCIALIZED MEDICINE

Articles continue to appear in both lay and medical magazines advocating socialized medicine, but we are still unconvinced. Two papers written by physicians have appeared recently, one in the *New York Medical Journal* and one in a lay monthly, *Common Sense*. The burden of the argument is that there are many thousands of physicians receiving incomes inadequate to meet the costs of living and many hundreds are on the welfare. The adoption of socialized or state medicine would insure all physicians a better or at least a livable income. One maintains that the County Medical Society as a unit could control the situation. We are told that state medicine is not "coming"—it is already here. The writer refers to the care of the insane, of communicable diseases, the indigent *et hoc genus omne*. Yet, whenever we have so-called state or socialized medicine, the physician has lost control. One thing is certain, should what is now individual practice of medicine and surgery ever be taken

over by the state or political body, the members of the profession will lose their autonomy. Dr. Hugh Cabot, in a book, *The Doctor's Bill*, has made the following statement which one may ponder with profit:

"It should be remembered, however, that the decision as to what pattern medical practice will gradually assume will not be made, in the long run, solely upon the opinion of the profession. In this field physicians have no exclusive rights to the expression of authoritative opinion. The problems are economic and social, rather than technical and professional. In the long run, the decision must remain with public opinion, since, after all, it is the public and not the profession, which is most vitally concerned. I cannot subscribe to the view that any group in the community has any rights which the public is bound to respect, if they can be shown to be opposed to the public interest."

The socialization of medicine means sacrifice of medical autonomy. It also means regulation and regimentation to a large extent by non-medical groups. Those who advocate state medicine point to the success of state owned schools. Every sensible person will admit that certain functions are best performed by the state, among them, education, police and fire protection, the postal service and certain other public or semi-public utilities. This should, however, bring very little solace to those members of the medical profession who advocate state medicine with the feeling that every physician would be assured an adequate income. Every teacher is not assured an adequate income; in fact, thousands of them haven't a fighting chance for any position or any income. They simply have to seek some other calling. We have said it many times: organize medicine and much fewer physicians can do the work that is to be done. Organization, needless to say, produces efficiency and efficiency eliminates man power. There is no proof whatsoever that the socialization of medicine will insure every member of the medical profession remunerative employment.

One writer points the finger to England. But what a price in taxation! The major item in the tax dollar of one city in this state (Detroit) is for education, 25.4 cents; add the maintenance of all hospitals in the city and adequate incomes for all the physicians, nurses, and pharmacists, and the



amount would cause the overburdened taxpayer to protest more vigorously than ever.

The considerate person will hold neither to uncompromising individualism nor to socialism or state control. The old Greek motto "nothing in excess" is perhaps the wisest after all. There are certain functions which are best performed by the state and others, including the practice of medicine, we believe, are best performed by individuals.

### MEDICO-LEGAL DEPARTMENT

It is of the utmost importance that persons engaged in any occupation inform themselves as to their legal status in their occupation, which includes their rights, their duties and their liabilities under the law. This JOURNAL from time to time has stressed the importance of accurate records, of x-ray examinations, of the physician's duty in his practice, as well as his rights and liabilities. A new creature is added to the JOURNAL through the courtesy of Dr. W. J. Stapleton and Mr. Barbour's office in the way of a Medico-Legal department. The August number of this JOURNAL contained a paper by Dr. Stapleton which recommended a number of readable works on medical jurisprudence. The physician will do well to equip himself with one or more of these up-to-date books. The present number of the JOURNAL contains an article by Mr. Clayton Purdy giving the Statute of Limitations as applied to physicians and surgeons, particularly in Michigan, with comment thereon. Needless to say, this is an important subject in the matter of the legal relations of physician and patient.

This new department will not be a question-and-answer department, but it is believed that careful study of the papers presented from time to time will clarify many problems that may arise in the minds of our members.

### POOR FISH!

The early diagnosis of pregnancy has been a concern of the medical profession and a matter of interest to the laity for centuries. Perhaps the most reliable diagnostic test is the Aschheim-Zondek, which has become widely known. Made under proper conditions by competent laboratory workers, the margin of error has been found to be very small.

Within the past few months, another method has been devised, known as the bitterling test. The bitterling is a European cyprinoid fish (*rhodeus amarus*) common in the waters about New York City. The carp and the goldfish are said to be the best known of the species.

The bitterling test for pregnancy as outlined by Kanter and co-workers consists in the exposure of a suitable "standardized" female fish of the bitterling family to 4 c.c. of the urine to be tested, in a quart of water. This exposure covers a period of three days. Kanter states that most fish responded within 24 hours, if the urine was from a case of pregnancy. In such a positive response to the presence of "pregnancy hormones" the ovipositor of the fish, the female generative organ, lengthens from a normal length of 2-3 mm. to 20-30 mm. extending well beyond the ventral fin. No such change is presumed to take place with urine obtained from males or from non-pregnant females. Kanter, however, calls attention to the necessity of standardizing the fish. He states that many of the fish are refractory to the "pregnancy" hormones and therefore would, if used, give false negative results. His article is not so definite in its statements regarding possible false positive reactions test probably is not one for the anterior pituitary like hormone used in the original Aschheim-Zondek test or the Friedman modification. He suggests that the test depends on the presence of an excessive amount of estrogenic substance in urines from pregnant women.

In this number of the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY appears a contribution on the subject by Doctors Owen and Cope of the Detroit Clinical laboratory in which the findings, with them, have proved unreliable as a means of determining pregnancy.

### WHAT PRICE "SLENDERING"

Vanity causes some people to take desperate chances in their endeavor to possess a sylph-like figure. Women appear to be the worst sufferers. A fat man may be somewhat cumbersome to himself. The Falstaffs, however, appear to be more acceptable than those of "the lean lank Cassius" type.

To be fat or not to be, that is the ques-

tion. If slendering might be accomplished by swallowing a pill, many would embrace the method. When it entails a great deal of self-denial, such as limiting the food intake or a choice of food low in calories, it is a wholly different matter. Adiposity goes hand in hand with inactivity. Increase in weight results as a rule in limitation of movement and limitation of movement is followed by an increase in weight, a sort of a vicious circle.

Recently, somewhat alarming reports have been made of the alleged toxic effects of dinitrophenol. In this number of this JOURNAL appears a paper by Dr. B. F. Glowacki of Detroit on acute cataracts which appear to be associated with dinitrophenol therapy. Several cases of cataract have been reported in the *Journal of the American Medical Association*, which have developed in persons who have taken the drug over a long period of time. Commenting on the coincidence of the use of the preparation and the incidence of cataract, the *Journal of the American Medical Association* goes on to say:

"The coincidence is of interest regardless of whether or not it may be established that the disturbance arose because of the dinitrophenol or because of some other undetected cause. It should, of course, be borne in mind that dinitrophenol has not been standardized chemically. The possible occurrence of toxic contaminants in preparations of dinitrophenol must be considered. The possibility also exists that the cataracts may have resulted from associated malnutrition and an unbalanced diet, which are in many instances a part of the program of those who attempt rapid reduction of weight by the use of dinitrophenol or other methods."

The matter of weight reduction is best undertaken under the supervision of a physician or internist who will undertake to study the basic requirements of the body in regard to both food and exercise.

---

At the 1935 session of the legislature of the state of Maine, a law was passed exempting radium used in the treatment of disease from taxation. This is as it should be except that the law does not extend far enough. All physicians' office equipment should be exempt from taxation. Every doctor saves the state enough in the charity work he performs to more than compensate for the personal tax charged yearly on his office equipment.

## MEDICO - LEGAL DEPARTMENT

### THE STATUTE OF LIMITATIONS AS APPLIED TO PHYSICIANS AND SURGEONS

*By Mr. Clayton Purdy, Detroit*

Each State in the Union has a statute which is commonly known as the Statute of Limitations, by which the legislatures of the various states fix a period in which a party must bring an action to have any standing in the courts. We will consider particularly the statute of limitations as it applies to physicians and surgeons for malpractice in the State of Michigan, although in parts of the discussion we may take up other types for illustrations. Section No. 13976 of the 1929 Compiled Laws, Section 3, of the State of Michigan, has a clause which reads as follows:

"Actions against \* \* \* or for malpractice of physicians, surgeons or dentists shall be brought within two years from the time the cause of action occurs and not afterwards."

In other causes of action, such as a case growing out of an automobile accident, the legislature has set the statute of limitations at three years. In the common ordinary open account, such as a bill which might be owing to a doctor by a patient for services, the statute of limitations is six years, etc.

The primary purpose of this law is to forestall people bringing actions long after the evidence has been forgotten, or the records which might be used in the defense of a case have been destroyed. In other words, the purpose of such laws is to prevent stale claims.

We might call attention to the fact that there are exceptions to the two year bar in actions against physicians and surgeons above referred to; the first being the case of a doctor treating a minor and the second arising when a cause of action has been concealed by the doctor from the plaintiff.

(1) A doctor in treating a minor, that is a party under the age of 21 years, is not protected by the two year statute of limitations. The courts of Michigan have held that the statute does not begin to run as against a minor until he has reached the age of twenty-one years. Therefore, if a doctor treated a child at the age of five years that child, in theory, might bring suit for malpractice against the doctor because of that treatment at any time within the next eighteen years. To show that such an action can come about we might cite a case which was brought to our attention here in Detroit not



more than two years ago. A physician who had practised medicine some twenty or twenty-five years ago in a small town in Upper Michigan had, in the course of his practice, delivered a baby girl. Twenty-two years after that time the doctor (who was then living in Detroit) was threatened with a malpractice action because of alleged negligence in the use of instruments in the delivery of the baby, claiming an injury to the eye. A suit was never instituted, however, and now that more than twenty-three years have elapsed since the act complained of, the case is barred by the statute of limitations above referred to.

(2) Section No. 13983 of the 1929 Compiled Laws of the State of Michigan reads as follows:

"If any person who is liable to any of the actions mentioned in this chapter shall fraudulently conceal the cause of action from the knowledge of the person entitled thereto, the action may be commenced at any time within two years after the person who is entitled to bring the same shall discover that he had such a cause of action, although such action would be otherwise barred by the provisions of this chapter."

The above statute is the second exception to the two year bar as against a physician. It would be, of course, necessary to go into a long discussion to fully cover just what would constitute fraud, but we might say that the Courts of Michigan have held that it is necessary that there be some active fraud and if the plaintiff has sufficient knowledge to put him upon inquiry, the above law would not bar the statute of limitations from running against him.

The courts of the various states, in construing the statute of limitations, have reached different conclusions. Some courts, such as the Supreme Court of Ohio, have held that the statute of limitations begins to run immediately after the claimed negligent act is committed. To illustrate, if a physician in operating on a patient is charged with leaving a sponge in the incision the Ohio court would hold that the statute of limitations would begin to run from the day the operation was performed, as that, according to their theory, was the date the negligent act was committed.

Other courts, such as our Michigan Supreme Court, have construed the statute of limitations as not beginning to run until the discontinuance of the relationship of physician and patient.

In the case above cited, if the physician had continued to treat the patient for a period of ten months or a year after the operation, the Michigan court holds that the statute of limitations would not commence to run until the discontinuance of the treatment, and, as one can see, it would extend the time considerably in which a patient might bring suit against a doctor.

Another question which has arisen in the courts in construing the statute of limitations is as to whether an alleged negligent act of a physician, which might not cause

damage immediately but would cause damage some three or four years after the happening of the alleged negligent act, would be barred by the statute of limitations if a physician had discontinued treatment more than two years prior to the time that the damage resulted. Under the decisions of our Michigan courts it would appear that they would hold that whether the damage was known or not the statute would run from the time the physician discontinued treatment. A case in Michigan which was recently disposed of contained such a question. In that case a woman had gone to a physician and surgeon who specialized in the treatment of the eye and secured, after he had given his prescription, a set of glasses which she claimed to have taken back to the physician to be checked. This lady had worn the glasses for some three years, and her eyes, according to her claim, grew steadily worse. At the end of that time she was examined by an optometrist and it was claimed that he found that one lens of the glasses had been reversed, that is the inner side was placed at the outer side of the frame. The plaintiff in that case claimed that due to that improper act she had practically lost the sight of her eye and of course she knew nothing about the alleged negligent act until some three years after she had discontinued treatment with the doctor. This case was disposed of without going to trial, by another defendant not a physician, but we feel confident that the court would have dismissed the case as against the physician because of the statute of limitations.

In conclusion we wish to call attention to the fact that it is very important that the doctor keep adequate records as to his treatment of cases. In a great many cases recently, plaintiffs, who have failed to institute suits within the two years granted them by the statute, have attempted to bring the case within the statute by claiming to have had some treatment less than two years prior to the time when they instituted suit. There are numerous cases started on such a basis and it cannot be too strongly impressed upon the doctor that if he has good records as to his treatment of the patient, and as to the time of his discontinuance of the treatment, that it carries very great weight with the courts and juries and is sometimes the means of having a case disposed of without going into its merits.

## A MOMENT OF MEDICAL HISTORY

W. T. D.

### BACTERIOLOGICAL AND TISSUE CULTURE METHODS

Living beings are dependent for their existence upon a set of chemical and physical factors which are adjusted to form a favorable environment. Such an environment is not only essential to the organism as a whole but to every constituent tissue and cell. The individual cells of an animal, for example, are as dependent upon the chemical and physical features of the tissue fluid environment and blood as the animal itself is upon its food, its enemies and divers other factors of its environment. Parasitic cells and organisms are similarly dependent upon the nutrient media unwittingly provided by the host. Consequently, an important aspect of biological investigation has been concerned with those environmental conditions which affect life. Through culture methods, it has been possible to create artificially an environment in which cells, tissues and even whole organs could be studied. Changes in the chemical and physical character of such an environment are not only easily effected, but it is also possible to observe the reaction of cells and tissues to these changes.

Until recently, culture methods have been adapted principally to free living and parasitic organisms of microscopic size. Leeuwenhoek, as early as 1674, had turned his microscopes to a study of minute living particles which he found in fluids. The "little animals" were first discovered in rain water taken from an exposed tub. He patiently studied the structure, movements and growth in numbers of these minute forms, which we now recognize as protozoa, algæ and bacteria. In an attempt to study the effect of the "hotness" of pepper upon the animalcules, Leeuwenhoek prepared infusions of pounded pepper only to find that his organisms thrived better in these than in their natural media. He prepared other media in which to cultivate and observe organisms. Among these were well water, sea water, melted snow, vinegar and infusions of clove, ginger, dung and gutter dirt. He further recorded an experiment in which an

infusion was carried for several days in a pocket where it was subjected to a temperature near that of his own body. As early as 1693, Edmund King made the first studies on infusions of oats and cooked cabbage.

During the following hundred and fifty years, a great number of naturalists, provided with the inadequately corrected microscopes of the time, attempted to study infusoria or infusion animals. These consisted, in addition to bacteria, protozoa and algæ, of rotifers and other small multicellular forms. Among the outstanding students of this type of life were Joblot (1718), Hill (1746 and 1751), Needham (1748 and 1750), Wrisberg (1765), Spallanzani (1765), Terechowsky (1775), O. F. Müller (1786), Abildgaard (1793), Gruithuisen (1809 and 1812), Wiegmann and Stieren (1820 and 1823) and Ehrenberg (1838). These men made infusions literally by the hundreds. Infusions were made from grain, hay, straw, a number of fruits and vegetables, seeds, parts of flowers, roots, tubers and such things as plant leaves and bark. Wine and drugs were likewise used, as were blood, urine, bile and feces from various animals. Broths were made of dead flies, beef, mutton, fish and mussels, of semen, egg yolk and albumen, feathers, hair and tobacco. Even iron, marble, copper and resins were introduced. Infusions of dust, gutter dirt and slime from bogs and ponds were among the more common media for the study of microorganisms.

Students of microscopic life during the eighteenth and early nineteenth centuries were chiefly interested in the discovery, naming and classification of new forms. The great variety of infusions was made in the hope that new microorganisms might be found. After a time, it was noted that the same organisms frequently occurred in different infusions, also that organisms from widely different localities were similar in type. Consequently, during the nineteenth century, there was a tendency to use a selected number of materials in culture infusions. Simple meat broths, blood, milk, urine, hay infusions and sugary solutions sufficed for most purposes.

Many problems arose as to the significance of organisms. Were they living beings in the sense of larger animals and plants? Were they specific forms which developed from strains of similar type or did they generate spontaneously? These ques-



tions occupied the attention of scientists for many years, and it was not till the idea of spontaneous generation was proven false that culture methods particularly advanced. Through the work of Joblot, Spallanzani, Terechowsky, Schulze, Schwann, Schröder and Dusch, Pasteur, and Tyndall, spontaneous generation was proven to be a false conception based upon the contamination of culture media by dust-borne organisms.

Spallanzani demonstrated that hermetically sealed cultures remained free from organisms. Franz Schulze, in 1836, found that there was no contamination when air was introduced into a culture, if the air were previously washed of dust particles by bubbling through concentrated sulphuric acid. The next year, Theodor Schwann showed that cultures could be protected from contamination if air were introduced to the medium through glass tubing heated near the melting point. Schröder and Dusch (1854), and later Schröder alone, demonstrated that cotton wool was effective in preventing the passage of microorganisms into tubes of sterile media, but would allow air to flow freely. The technic of protecting cultures with pledgets of cotton fiber is even at present a common method of avoiding contamination. Pasteur (1861) showed that if the necks of culture flasks were drawn out and bent downward or into spirals, air could enter the flask while dust-borne organisms were excluded. Finally, Tyndall (1877) showed that there would be no contamination of a sterile culture fluid if the surrounding air were absolutely free from suspended dust particles or motes.

Taxonomic and physiological studies on microorganisms in the middle of the nineteenth century had progressed to the extent that animal and plant forms were distinguished from one another and that a group of organisms known as bacilli and vibrios were recognized as causative agents of putrefaction and various types of fermentation. The practical importance of these minute organisms, therefore, led to the development of methods with which the environmental relationships of these organisms could be studied. Pasteur (1862), Roberts (1874) and Cohn (1876) found that neutralization of the acidity of culture media allowed better growth of bacteria and greater resistance to boiling temperature. Litmus and turmeric became extensively used as in-

dicators of the acidity or neutrality of media. Roberts also suggested adjusting the specific gravity of the media to a constant value.

During the 1860's and 1870's following the demonstration of methods of contamination, increased attention was given to methods of sterilization. Since the time of Wrisberg and Spallanzani, it was generally agreed that heat killed organisms. There was much controversy, however, on the lowest effective temperature required to kill bacteria until it was independently discovered by Tyndall and Cohn that bacteria existed in two forms: an active, vegetative form which was killed in a few minutes exposure to temperatures of 70° C. or above, and an inactive germ or spore which was thermo-resistant. Cohn, working with *Bacillus subtilis*, and Koch, using anthrax, demonstrated in 1876 that spores gave rise to bacillary forms and these in time formed spores again. Sterilization methods were thus required to kill spores as well as active bacteria.

Tyndall (1877) introduced a method of sterilization using discontinuous heat. According to this method, which immediately became important, cultures were subjected to boiling temperatures for a few moments each day for several days; thus, as the spores germinated, each successive generation of active forms was killed. In this way, a culture was rendered absolutely sterile and ready to be inoculated with specific organisms for study.

A second method of sterilization, which was introduced by Tiegel (1871) and Eberth (1872), involved the filtration of media through porous clay. Pasteur and Joubert (1877) used plaster of Paris with asbestos intermixed as a filter and more or less standardized filtration methods until 1884, when Chamberland devised candle-shaped filter tubes of unglazed porcelain. The filters of Chamberland and others obviated heating of the media. This was likewise true of filters made from baked infusorial earth, which were introduced by Nordt-meyer (1891) and called Berkefeld filters after the owner of the mine in which the earth was found. Media which otherwise would have been changed or coagulated by heat were forced through a filter by pressure or suction.

In order to obtain sterilization tempera-

tures above 100° C. for the killing of bacterial spores, special ovens or iron boxes were constructed to be placed over gas flames. Other methods of obtaining sterilization at temperatures above boiling involved the use of baths of heated brine, oil or paraffin. For sterilization at 100° C., Koch, Gaffky and Löffler (1881) recommended a steam bath which consisted of a metal cylinder having a layer of water at the bottom. A continuous vapor of steam produced by heating kept the chamber at the required temperature. By clamping a lid to the steam chamber, the steam could not escape and, under pressure, its temperature increased. A common apparatus in the early 1880's for compressed or live steam was the Papin pot, a device which had been used for years in the cleaning of bones. Another similar apparatus was a steam pot which was provided with a valve and introduced by Fol. With the addition of a pressure manometer, a valve and a thermometer, such chambers for compressed steam sterilization came to be known as autoclaves.

If much attention was given the methods of sterilization, still more was devoted to culture media. Studies were made on the simplest nutritive requirements of bacteria by Pasteur, Cohn and Nägeli. Solutions of inorganic chemicals were found to permit bacterial growth. Dujardin (1841) was probably the first to use inorganic media. Pasteur, Rauben, Cohn and Nägeli developed artificial media which consisted of such chemicals as potassium phosphate, ammonium tartrate, magnesium sulphate, tribasic calcium phosphate, calcium chloride, sodium chloride, ammonium nitrate and ash of yeast dissolved in distilled water. Over a hundred such liquid media varying in the type and proportion of chemicals are in present day use.

The essentials of a liquid medium were a satisfactory source of carbon and nitrogen plus certain inorganic ions and suitable tonicity. Commonly, certain organic materials, such as carbohydrates, glycerol and alcohols, were used in liquid cultures for specific purposes. The meat broths of earlier workers were standardized as to concentration by Löffler (1881), who added one per cent of peptone (a secondary protein product of gastric digestion) and a small amount of salt. At the end of the nineteenth century, amino acids, such as asparagin, cysteine and tryptophane, were also used in media, as

were the digestive ferments, pepsin and trypsin. Blood serum, bile and other animal products continued in standard procedure. At present, there are somewhat over a thousand available liquid media which differ from one another in composition and use.

*(To be concluded in October issue)*

## X-RAY EXHIBIT AT THE STATE MEDICAL SOCIETY MEETING

The Michigan Association of Roentgenologists are preparing a joint exhibition for the seventieth annual meeting of the Michigan State Medical Society at Sault Ste. Marie, September 23 to 26, inclusive. The exhibit will not be the work of any one roentgenologist or any certain group, but will be submitted by the society as a whole. The object is educational and not to display rare or unusual lesions. An alphabetic list of roentgenologists and institutions submitting material will be displayed with the exhibit. Descriptive information regarding various films will be presented in printed form to all physicians viewing the exhibit and roentgenologists of the state will assist in demonstrating during the days of the meeting.

The following is a list of roentgenograms which will be on exhibition.

Table of Contents for Proposed General Radiographic Exhibit to be Presented Under the Auspices of the Michigan Association of Roentgenologists at the State Medical Society Meeting, Sault Ste. Marie, September 23-26, 1935.

No. films to be displayed

### Sinuses, Mastoids, Bones of Face—18 Films

- 1 Clouded sinuses
- 1 Polyp of sinus
- 1 Neoplasm of sinus
- 1 Osteomyelitis of sinus wall
- 2 Normal mastoids
- 2 Bone destruction, mastoid
- 2 Cholesteatoma
- 1 Fracture, dislocation—bones of face
- 1 Neoplasm, bones of face
- 2 Foreign body, orbit
- 1 Fracture, mandible
- 1 Osteomyelitis, mandible
- 1 Neoplasm, mandible
- 1 Complete set dental films—mounted

### Skull—25 Films

- 2 Depressed fracture, skull
- 1 Linear or stellate fracture, skull
- 1 Primary neoplasm, skull
- 1 Secondary neoplasm, skull
- 2 Examples of metabolic bone disturbance, skull

### Evidence of Intracranial Lesion

- 1 Abnormal sutures
- 1 Oxycephaly
- 1 Intracranial erosion
- 1 Local bone destruction or proliferation, tumor site
- 2 Abnormal calcification, intracranial
- 2 Encephalogram showing destruction brain substance
- 2 Ventriculogram, deformity of ventricular system
- 2 Encephalogram or ventriculogram—internal hydrocephalus



- 2 Unspecified intracranial tumor, air injection
- 2 Supratentorial intracranial tumor
- 2 Infratentorial intracranial tumor

### Spine—15 Films

- 1 Abnormal curvature
- 1 Spondylolisthesis
- 2 Hypertrophic spondylitis
- 2 Soft tissue paravertebral abscess
- 2 Fractures
- 2 Epiphysitis, osteochondritis
- 2 Tuberculosis
- 2 Secondary neoplasm
- 1 Abnormal myelogram

### Bones Upper Extremity—25 Films

- 3 Fractures
- 1 Healing or healed fracture
- 1 Non-union fracture
- 1 Epiphysal separation
- 2 Subluxation or dislocation of joint
- 3 Tuberculosis, bone or joint
- 3 Osteomyelitis
- 1 Osteochondritis
- 3 Rickets, scurvy
- 1 Atrophic arthritis
- 1 Hypertrophic arthritis
- 1 Metabolic arthritis (gout, hemophilia, etc.)
- 1 Septic or purulent arthritis
- 3 Primary neoplasm

### Bones Lower Extremity—25 Films

(Same entries as for upper extremity)

### Thorax (Mediastinum, Soft Tissues of Neck,

### Cardio-vascular System)—17 Films

- 1 Soft tissues of neck, normal
- 1 Abnormal cervical thyroid
- 1 Carcinoma larynx
- 1 Retropharyngeal abscess
- 2 Non-tuberculous mediastinitis
- 2 Lymphoblastoma, mediastinum and hila
- 1 Primary neoplasm, mediastinum or chest wall
- 1 Secondary neoplasm, mediastinum or chest wall
- 1 Congenital heart disease
- 1 Cardiac enlargement
- 2 Aneurysm
- 3 Calcification, heart, pericardium, aorta

### Thorax (Lungs and Pleura—Non-tuberculous)—36 Films

- 4 Foreign body, trachea, bronchi, lungs, pleural cavity
- 2 Extensive pleuritis without effusion
- 2 Pleural effusion, empyema, before and after drainage
- 1 Calcification, pleura
- 1 Hydropneumothorax
- 1 Pneumonia, lobar
- 1 Pneumonia, broncho
- 1 Pneumonia, postoperative
- 1 Pneumonia, resolving
- 1 Bronchiectasis suspected
- 2 Bronchogram, normal
- 2 Bronchogram, bronchiectasis
- 2 Bronchogram, abnormal, other than bronchiectasis
- 1 Pneumonitis, suppurative
- 2 Pulmonary abscess or cyst
- 2 Fusospirochetal lung disease
- 2 Pulmonary infarct
- 2 Atelectasis, lobular, lobar

- 1 Pneumoconiosis
- 1 Radiation fibrosis
- 1 Bronchogenic carcinoma
- 1 Metastatic neoplasm, lung
- 2 Lymphoblastoma, lung

### Thorax (Pulmonary Tuberculosis)—12 Films

- 1 Calcified parenchymal lesion
- 1 Calcified lymph node
- 1 Parenchymal lesion, childhood type
- 1 Non-calcified lymphadenopathy
- 1 Adult type, minimal extent
- 1 Adult type, moderately advanced
- 1 Adult type, far advanced
- 1 Miliary tuberculosis
- 1 Induced pneumothorax
- 1 Phrenic interruption
- 1 Pneumonolysis, any type
- 1 Thoracoplasty

### Gastro-intestinal Tract—21 Films

- 1 Esophageal spasm
- 1 Esophageal diverticulum
- 1 Esophageal neoplasm
- 1 Esophageal foreign body
- 1 Diaphragmatic hernia
- 1 Gastric ulcer
- 1 Duodenal ulcer
- 1 Gastric neoplasm, scirrhus
- 1 Gastric neoplasm, adenocarcinoma
- 2 Cholecystogram, normal visualization
- 2 Biliary stone
- 1 Diverticulosis of the colon
- 1 Ulcerative colitis
- 1 Tuberculous colitis
- 2 Colonic neoplasm
- 1 Calcification within abdomen
- 1 Intestinal obstruction
- 1 Subphrenic abscess, free peritoneal air

### Genito-urinary Tract—21 Films

- 1 Duplication anomaly
- 1 Other developmental anomaly
- 1 Renal calculus
- 1 Ureteral calculus
- 1 Hydronephrosis
- 1 Pyelonephritis
- 1 Renal tuberculosis
- 2 Intra-renal mass; neoplasm, cyst, etc.
- 1 Extra-renal mass; perirenal abscess
- 1 Pyelovenous, lymphatic backflow opaque media
- 1 Calculus, bladder
- 1 Diverticulosis, bladder
- 1 Prostatic hypertrophy
- 1 Neoplasm, bladder
- 1 Normal pelvimetric study, female pelvis
- 1 Abnormal pelvimetric study, female pelvis
- 1 Uterogram, normal
- 1 Uterogram, abnormal
- 2 Pregnant uterus.

*Note:* Where two films are indicated for a single entity this represents necessity of two views to adequately show lesion. In the case of gall bladder examinations it represents pre and post fat feeding films.

This outline is intended to adequately cover the entire field of roentgen diagnosis for presentation to the medical profession at large.

Space will also be available for the presentation of clinical photographs and charts dealing with the subject of roentgen and radium therapy. Members are urged to submit any material they wish to in this field.

## The 1935 Annual Meeting



THE LOCKS AT SAULT STE. MARIE

### MICHIGAN STATE MEDICAL SOCIETY MEETS AT SAULT STE. MARIE

As has been announced, the seventieth annual meeting of the Michigan State Medical Society will be held at Sault Ste. Marie, September 23 to September 26. This is the first time in history of the association that the "Soo" has been chosen as the place of meeting and the upper peninsula medical profession are leaving nothing undone to mark the event and to make the visit of the physicians of the state both pleasant, and as profitable as those meetings held in other cities of the state. Sault Ste. Marie is unique in many respects; its climate, its history, its famous locks, through which is concentrated the major traffic of the great lakes, all combine to make the sojourn of the profession a matter of anticipated interest. Sault Ste. Marie is becoming a popular summer resort because of its pleasant climate and cool breezes off Lakes Superior and Huron. The Sault is noted for its absence of hay fever and the home of the Ca-Choo Club of America. Annually hundreds of folks go there from all parts of the United States seeking relief and do find almost immediate satisfaction. It is said that there is not a ragweed within one hundred miles of Sault Ste. Marie. The Ca-Choo Club, we are informed, is a reality and not merely a facetious name. Its membership consists of erstwhile sufferers from hay fever, about 240 in number, who hail from fourteen different states in the hay fever belt. The activities of this organization consist of social events, picnics and other means of diversion.

Somewhat isolated as this city of about 14,000 inhabitants is, there is naturally an

intensity of community spirit. All sports of a red blooded population are indulged in to the full, particularly in winter, skating, hockey, snowshoeing and skiing.

The city has 4,000 homes, ten schools, twelve churches, three banks and fourteen industries besides a real live chamber of commerce of 250 members. It is located on St. Mary's River, which connects the two great bodies of water, Huron and Superior. The ship canal carries more tonnage than that of the Panama and Suez Canals combined. It is a most fascinating sight to see the great freighters and passenger boats lowered some twenty feet with apparently no effort, allowing them to pass with very little delay to their destination. The St. Mary's River, 63 miles long, is the connecting link between Lake Superior and Lake Huron. Between the two lakes the level differs by about 22 feet. The fall is concentrated at the St. Mary's Rapids about 49 miles above the mouth of the river, where in a distance of about three quarters of a mile, the fall varies from eighteen to twenty-one feet. The first canal was built on the Canadian side of the river in 1797-98 by the Northwest Fur Company. From this date until the present time, in keeping with the demands and growth of commerce, improvements and developments have taken place until the following facts give us a fair idea of the locks as they appear today.

#### Facts About the Locks

Four locks on the American side; one in Canada. Old State lock was opened in 1855.

Weitzel lock is 515 feet long and 80 feet wide. It was built in 1881 and is obsolete.

Canadian lock is 900 feet long and 60 feet wide. It was built in 1895.



Poe lock is 800 feet long and 100 feet wide. It was built in 1896.

Davis and Sabin locks are 1,350 feet long and 80 feet wide. The Davis lock opened in 1914 and the Sabin in 1919.

No tolls are charged to any vessels.

ever, was founded at Sault Ste. Marie in 1668 by Father James Marquette. Since this time the location also became a depot of the Western fur trade, an army post of the French, the British and the American gov-



SENIOR HIGH SCHOOL—CONVENTION HEADQUARTERS



AUDITORIUM OF HIGH SCHOOL WHERE MEETINGS WILL BE HELD

The average freight traffic during the past five years was over eighty-six millions net tons, with a value of over a billion dollars annually. From 1855 to 1881 tolls were charged by the state to cover the expense of operation and repair. In 1881 control was transferred from the state of Michigan to the United States government. Since that time the American canal has been free to the public use of all nations.

## History

Sault Ste. Marie has the distinction of being not only the oldest town in Michigan but the oldest in the United States west of the Alleghenies, with the possible exception of Santa Fe, New Mexico. It is older than any town in Canada west of Montreal. The place was first visited by French explorers on their way west, when it was early recognized as the key to the great lakes region. Etienne Brule, who discovered Lake Huron in 1611, was the first white man known to visit Sault Ste. Marie, presumably in 1623, three years after the pilgrims landed at Plymouth Rock.

Jean Nicolet, one of Champlain's young explorers, reached Sault Ste. Marie in 1634. The falls of St. Mary were first named by Father Isaac Jogues and Charles Raymbault, who established a temporary mission at the foot of the falls which they named "Sault de Sainte Marie"—the leap or falls of St. Mary. The first mission church, how-

ernments. It was also a trading post for the Indians. The inexhaustible quantities of white fish in the river attracted the Indians for hundreds of miles.

Sault Ste. Marie was a French possession until the English victory over the French at the battle of Quebec placed all of French Canada in the possession of the British. During the war of 1812, the traders of the Northwest Fur Company joined with the British Garrison at Fort St. Joe on St. Joe Island. In retaliation, Sault Ste. Marie was visited in 1814 by Major Holmes of the American Army when he destroyed the Northwest Company post on the north side of the river. The British flag flew over the American Sault until June 15, 1820, when it was lowered by Governor Lewis Cass of Michigan who raised the American flag in its place. In 1822 Fort Brady was built on the grounds now occupied by the Federal Building, where it remained until 1893, when it was abandoned and rebuilt on its present site. We see then that, in common with Detroit, Sault Ste. Marie has been garrisoned by French, British and American troops.

Chippewa County, of which Sault Ste. Marie is the county seat, was organized in 1826, when it extended west of the Mississippi, taking in most of the upper peninsula of Michigan and a large part of Wisconsin and Minnesota.

Any historical reference to the Sault region would be wanting if mention of the

Hiawatha legends were omitted. According to Indian mythology, Kwasind, the strong man and friend of Hiawatha, formed the ledges of rock over which St. Mary's River tumbles and dances on its way to the sea.



OJIBWAY HOTEL

Longfellow, as is well known, has immortalized the Hiawatha country.

With its odors of the forest,  
With the dew and damp of meadows,  
With the curling smoke of wigwams,  
With the rushing of great rivers  
With their frequent repetitions  
And their wild reverberations,  
As of thunder in the mountains.

### Prominent Physicians Past and Present

When Dr. Beverly D. Harison came to the Soo in 1888, the typhoid mortality, locally, was persistently high; one five year rate was 111 per 100,000. There was no sewerage system in some of the outskirts of the town. Doctor Harison early became the Health Officer of the city and was most energetic in improving the system and the typhoid situation.

With the late Dr. Samuel Bell, he was a large factor in forming the Upper Peninsula Medical Society and was an early president. He was president of Michigan State Medical Society.

The Howell Medical Act of 1883 allowed all (educated or not) who had practised medicine for the five years previous to register. Anyone graduated from a legally authorized medical college anywhere in the world might register, but the law was either seldom or poorly enforced. A fifty cent registration fee to the County Clerk enabled one to practice medicine. The legislators

were indifferent to several attempts to improve the situation; the medical men themselves did not agree as to the legislation they wanted. In the late nineties, Dr. B. D. Harison became interested and devoted much of his time to securing restrictive medical legislation. He was assisted by a number of influential physicians of the Soo in inducing William Chandler, a prominent citizen, to stand for election to the legislature and to introduce the Chandler Medical Act, which was made a law in 1899. The Medical Registration Board was formed and Doctor Harison was its first secretary, holding the office for nearly twenty-five years. One of the first results, when registration under the new act was accomplished, was the driving out of some 2,200 men who were practicing medicine illegally.

The Chandler Act had a far-reaching effect, inasmuch as the Medical Registration Acts of more than thirty states were based on it. Dr. Walter I. Bierring refers to Doctor Harison as "the father of Medical Legislation" and says in a personal communication, "The prominent place that the Michigan Medical Board has always maintained in promoting higher ideals of Medical Legislation and Licensure was largely due to initiative and energy characteristic of its learned and accomplished Secretary." Both Doctor Bell and Dr. Harison moved to Detroit, where the Michigan State Board of Medical Registration was located at the time of Dr. Harison's death.

Dr. C. J. Ennis, the Dean of the Profession in the Soo, was born in Dublin, Ireland. He graduated from Carmichael Medical College in 1874, practiced in Western Australia, in the British service until 1882. He came to Sault Ste. Marie the following year: The Doctor has been president of the Chippewa County Medical Society, of the Upper Peninsula Medical Society, was a councillor of State Medical Society for six years. In 1928 he was elected an honorary member of the Michigan Medical Society.

Dr. E. H. Webster came to the Soo first an assistant, later associate, of the late Dr. Harison. He has been president of the Chippewa County Medical Society, of the Upper Peninsula Medical Society, and vice president of the State Society.



# Program---The 1935 Annual Meeting

## Official Program

70th  
ANNUAL MEETING  
OF THE

## Michigan State Medical Society

FOUNDED JUNE 5, 1866



MEDICAL SOCIETY  
OF THE TERRITORY OF MICHIGAN  
FOUNDED JAN. 11, 1820

PENINSULAR STATE MEDICAL  
SOCIETY  
FOUNDED MAR. 30, 1853

SAULT STE. MARIE, MICHIGAN  
September 23, 24, 25, 26, 1935

## SPECIAL ANNOUNCEMENTS

Ex-Governor Osborn will be guest of honor of the Society and will speak at a luncheon, 1:00 P. M., Monday, September 23. Members, ladies of Auxiliary and guests are cordially invited. Please make reservations at Information Desk, Ojibway Hotel Annex.

### Poliomyelitis Exhibit

The A.M.A. Exhibit as shown at Atlantic City. Motion pictures. Twenty-minute talks by Drs. L. J. Schermerhorn, John T. Hodgen, and Edgar E. Martner, Tuesday and Wednesday.

### The John A. Kolmer Exhibit

"Active Immunization of Children against Poliomyelitis." Motion pictures showing application. Demonstration by Dr. Harold R. Roehm, Tuesday, 2:30 P. M.

See Bulletin Board

## OFFICIAL CALL

The Michigan State Medical Society will convene in annual session in Sault Ste. Marie on September 23-24-25-26, 1935. The provisions of the Constitution and By-laws and the official program will govern the deliberations.

RICHARD R. SMITH, *President*

JULIUS POWERS, *Chairman Council*

H. A. LUCE, *Spcaker*

Attest:

BURTON R. CORBUS, *Secretary*

## PROGRAM OUTLINE

### COUNCIL MEETING

Council Meeting, Sunday, September 22, 8:00 P. M.—Ojibway Hotel.

### HOUSE OF DELEGATES

First Session—Monday, September 23, 3:00 P. M.—Ojibway Hotel Annex.

Second Session—Monday, September 23, 8:00 P. M.—Ojibway Hotel Annex.

Third Session—Tuesday, September 24, 9:00 A. M.—High School Auditorium.

### GENERAL SESSIONS

Tuesday, September 24, 8:00 P. M.

Wednesday, September 25, 8:45 A. M.

Wednesday, September 25, 8:00 P. M.

Thursday, September 26, 8:45 A. M.

All General Sessions (Sections combined)—High School Auditorium.

Section on Ophthalmology and Otolaryngology, Wednesday, September 25, 2:00 P. M.—High School.

For further announcements see Page 564.

## LOCAL COMMITTEES

General Chairman—F. C. Bandy.

Hotels—G. A. Conrad, F. H. Husband.

Entertainment—W. F. Mertaugh, S. H. Vegors.

Automobile Parking—C. Willison, F. J. Moloney, H. T. Gray.

Scientific Exhibits—J. G. Blaine, F. W. Tamblyn.

Commercial Exhibits—I. V. Yale.

## SCIENTIFIC PROGRAM

NOTE: All Sections are combined in General Sessions with the exception of the Section on Ophthalmology and Otolaryngology.

### First Session

**Tuesday Evening, September 24, 1935**  
8:00 P. M.

Presiding: MERRILL WELLS, *Chairman*  
*General Medical Section*

1. "Comments on the Medical Managements of the Diseased Gall Bladder"—John H. Musser, M.D., Tulane University, New Orleans, Professor of Medicine.  
Discussant: W. H. Marshall, Flint.
2. "Surgical Aspect of Gall Bladder Disease"—Frederick A. Collier, Ann Arbor.  
Discussant: Earl I. Carr, Lansing.
3. "The Relation Between Physical and Psychic Disturbances"—George W. Hall, M.D., University of Chicago, Professor of Neurology.  
Discussant: H. A. Reye, Detroit.
4. "Maternal Mortality"—Jennings C. Litzenberg, M.D., University of Minnesota, Professor of Obstetrics and Gynecology.  
Discussant: Norman A. Miller, Ann Arbor.

### Second Session

**Wednesday Morning, September 25, 1935**  
8:45 A. M.

Presiding: EDGAR E. MARTMER, *Chairman*  
*Pediatrics Section*

1. "Hemorrhages Accompanying Labor"—Jennings C. Litzenberg, M.D., University of Minnesota, Professor of Obstetrics and Gynecology.  
Discussant: Alex M. Campbell, Grand Rapids.
2. "Allergy and the General Practitioner"—Harry L. Huber, M.D., University of Chicago.  
Discussant: Richard M. McKean, Detroit.
3. "Hypoglycemia in the Vagotonic"—Martin A. Mortensen, Battle Creek.  
Discussant: Hugo A. Freund, Detroit.
4. "Compensatory Hypertrophy and Hyperplasia of Islands of Langerhans in Utero, Congenital Hypoglycemia Due to Hyperinsulinism"—Wm. H. Gordon, M.D., Detroit.  
Discussant: Hugo A. Freund, Detroit.
5. "Diseases of the Peripheral Arteries—Their Interference with Normal Physiology and Evaluation of Newer Methods of Treatment"—Walter G. Maddock, M.D., Ann Arbor.  
Discussant: Clare Vale, Detroit.

NOTE: There will be no general discussion. Invited discussants are limited to seven minutes.

## CLINICAL PATHOLOGICAL CONFERENCE

**Wednesday Afternoon, September 25, 1935**  
3:30 P. M.

Conducted by Drs. WM. MCK. GERMAN  
and JAMES E. DAVIS

## PRESIDENT'S NIGHT

**Wednesday Evening, September 25, 1935**  
8:00 P. M.

1. Music.
2. Invocation.
3. Welcome.
4. Announcements—B. R. Corbus, Secretary.
5. President's Address: "Michigan and Our Profession Today and Yesterday"—Richard R. Smith, M.D., Grand Rapids.
6. Induction into Office as President—Grover C. Penberthy, and response.
7. The Andrew P. Biddle Oration: "The Status of the Hypertension Problem"—S. Marx White, M.D., University of Minnesota, Professor of Medicine.

### Third Session

**Thursday Morning, September 26, 1935**  
8:45 A. M.

Presiding: H. K. SHAWAN, *Chairman*  
*Surgical Section*

1. "Common Lesions of the Cervix"—Norman F. Miller, M.D., Ann Arbor.  
Discussant: Harold A. Furlong, Pontiac.
2. "Postoperative Oxygen Therapy"—Erwin R. Schmidt, M.D., University of Wisconsin, Madison, Professor of Surgery.  
Discussant: Frank J. Murphy, Detroit.
3. "Common Fungus Dermatoses"—Lester M. Wieder, M.D., Milwaukee, Wis.  
Discussant: A. R. Woodburne, Grand Rapids.
4. "Achlorhydria—Its Clinical Significance and Management"—C. Emerson Vreeland, M.D., Detroit.  
Discussant: E. L. Eggleston, Battle Creek.

## SPECIAL SECTION PROGRAM

### OPHTHALMOLOGY-OTOLARYNGOLOGY\*

**Wednesday, September 25, 1935**  
2:00 P. M.

J. W. ORR, *Chairman*, Flint  
D. R. HEETDERKS, *Secretary*, Grand Rapids

1. "Chronic Rhinitis—Allergic and Non-allergic"—Harry Huber, M.D., Chicago.  
Discussant: Geo. L. Waldbott, Detroit.
2. "Surgical Treatment of Retinal Detachment"—F. Bruce Fralick, M.D., Ann Arbor.  
Discussants: John McRae, Grand Rapids.  
Edgar Poos, Detroit.
3. "Paralysis of the Larynx"—Albert Furstenberg, M.D., Ann Arbor.  
Discussants: Carl Snapp, Grand Rapids.  
Carl Wencke, Battle Creek.
4. Round Table.

\*Invited discussants will be limited to seven minutes. Discussions from the floor strictly limited to five minutes.



## SCIENTIFIC EXHIBITS

All Scientific Exhibits will be in the  
Exhibit Hall—High School

"Allergic Shock"—Geo. L. Walbott, Detroit.

"Thoracic Surgery"—Wm. L. Hudson, Detroit.

Michigan Association of Roentgenology—Direction:  
R. H. Stevens, Detroit.

"Cranio-Cerebral Injuries and Their Management"—  
E. S. Gurdjian, Detroit.

"Treatment of Burns with Tannic Acid"—Motion  
Pictures—Grover C. Penberthy and C. N. Weller,  
Detroit.

"Hematuria"—Robert A. MacArthur, Detroit.

"Plastic and Reconstructive Surgery"—Claire L.  
Straith, Detroit.

"Cancer and Cancer in Michigan"—Direction F. L.  
Rector, Evanston, Illinois. Auspices—Cancer Com-  
mittee, Michigan State Medical Society and the  
American Society for Control of Cancer.

### "Poliomyelitis"

Direction L. J. Schermerhorn, Grand Rapids

1. Special exhibit by courtesy A.M.A.  
Motion pictures—

- a. "Early Treatment of Poliomyelitis"—E. B.  
Shaw, San Francisco.
- b. "The Relation of the Experimental Disease  
to the Human Disease"—S. D. Kramer,  
Brooklyn.

Twenty-minute discussions Tuesday after-  
noon and Wednesday—L. J. Schermerhorn,  
Grand Rapids; John T. Hodgen, Grand Rap-  
ids; Edgar E. Martmer, Detroit.

2. "Kolmer's Method of Active Immunization of  
Children Against Infantile Paralysis"—Motion  
pictures. A very special exhibit—courtesy of  
John A. Kolmer, M.D., Philadelphia, through  
Harold R. Roehm, M.D., of Birmingham, Mich.

*Note:* Dr. Roehm will present this exhibit  
with a discussion of its clinical application at  
2:30 P. M., Tuesday.

Preventive Medicine Committee—Direction L. O.  
Geib, Detroit. A demonstration of the practical  
application of Schick, Tuberculin Tests, et cetera.  
Courtesy of Michigan Department of Health,  
Michigan Tuberculosis Society.

"The Development of the JOURNAL OF THE MICHIGAN  
STATE MEDICAL SOCIETY." "Publications and Lit-  
erature of the A.M.A."—Direction J. H. Dempster,  
Editor.

Michigan Department of Health—C. C. Slemmons,  
Commissioner. Exhibit showing the varied activi-  
ties of the department.

## COMMERCIAL EXHIBITORS

Bard-Parker Company, Inc., Danbury, Conn.

H. G. Fischer & Co., Inc., Chicago, Ill.

General Electric X-Ray Corporation, Chicago, Ill.

Gerber Products Co., Fremont, Mich.

The J. F. Hartz Company, Detroit, Mich.

H. J. Heinz Company, Pittsburgh, Pa.

Horlick's Malted Milk Corporation, Racine, Wis.

The G. A. Ingram Co., Detroit, Mich.

Kellogg Company, Battle Creek, Mich.

A. Kuhlman & Company, Detroit, Mich.

Lederle Laboratories, Inc., New York City, N. Y.

Libby, McNeill & Libby, Chicago, Ill.

Mead Johnson & Co., Inc., Evansville, Indiana.

The Medical Protective Co., Wheaton, Ill.

Physiotherapy Equipment Co., Detroit, Mich.

Philip Morris & Co., Ltd., New York, N. Y.

Randolph Surgical Supply Co., Detroit, Mich.

## WOMAN'S AUXILIARY

### PROGRAM FOR MEDICAL AUXILIARY CONVENTION

September 23, 24 and 25, 1935

Headquarters—Country Club

#### Monday, September 23

1:00 P. M.—Auxiliary Members and Guests are in-  
vited to a luncheon at the Ojibway Ho-  
tel in honor of Ex-Governor Osborn,  
who will speak on "The Early History  
of Sault Ste. Marie."  
Please make reservations.

#### Tuesday, September 24

10:00 A. M.—Pre-convention Board meeting at the  
Country Club with County Presidents  
as guests—Mrs. F. T. Andrews, presid-  
ing.

11:00 A. M.—County Presidents' meeting—Mrs. A.  
M. Giddings, President-Elect, presiding.

12:30 P. M.—Luncheon at the Country Club—Tickets  
75 cents.

#### Tuesday Afternoon

Boat trip through the Locks across the head of  
the rapids and up the river.

#### Wednesday, September 25

10:00 A. M.—General meeting—Reports of Delegates  
and election of officers.

12:30 P. M.—Luncheon at the Country Club—Tickets  
\$1.00. Speaker, Ex-Governor Chase S.  
Osborn.

4:00 P. M.—A complimentary reception and tea for  
the new President by Chippewa-Macki-  
nac County physicians' wives.

All General Meetings of the Michigan State Medi-  
cal Society are open to the Auxiliary and guests.

Local Committee: Mrs. F. C. Bandy, Mrs. I. V.  
Yale, and Mrs. F. W. Tamblyn.

## ANNOUNCEMENTS

Registration Booth in Exhibit Hall—High School.

**YOUR ATTENTION** is called to the unusual **SCIENTIFIC EXHIBITS**. Motion pictures are shown in many booths. Lectures and discussions at stated hours.

Please watch the Bulletin Board.

### Beverly D. Harrison, M.D.

The Chippewa-Mackinaw County Medical Society plans to honor the memory of Doctor Harrison, a former resident of Sault Ste. Marie and for a long time secretary of the State Board of Registration.

It is hoped that the plans may be sufficiently far advanced to give those attending this meeting the opportunity of joining the local profession in recognizing the valiant work of Doctor Harrison in helping to establish and operate the Michigan Medical Practice Bill.

### Poliomyelitis Exhibit

The threatened epidemic will make this exhibit of special interest. You will find it in the room opposite the entrance to the Exhibit Hall.

John A. Kolmer, M.D., of Philadelphia, who was to have been our guest and whose subject was to have been "Active Immunization of Children Against Infantile Paralysis," has been kind enough to send on his motion pictures and his exhibit. This has been made possible through Dr. Harold R. Roehm of Birmingham, Michigan, who will present Doctor Kolmer's work on Tuesday afternoon.

You will be much interested in the exhibit of the Michigan Association of Roentgenology, under the direction of Dr. R. H. Stevens of Detroit.

The exhibit consists of 215 films, reduced to a 10x12 size, covering every region of the body. The normal as well as the abnormal appearance will be shown. An important educational opportunity.

To Dr. H. K. Shawan who is largely responsible for the assembling of the splendid scientific exhibit and to Dr. Wm. McK. German for his valuable advice and help in arranging it, the thanks of the Society and the Secretary are accorded.

Do not forget to give full attention to the **COMMERCIAL EXHIBITS**. Our exhibitors have been most loyal to us this year. Show them that you appreciate it.

### Entertainment

The Chippewa-Mackinaw County Medical Society will be host to the House of Delegates following the Monday evening session.

On Wednesday evening our hosts will honor President Smith and guests of the Society with a reception and buffet supper at the Hotel Ojibway.

Golf in Canada or America. Low green fees.

Frequent excursions on the beautiful St. Mary's River, Tuesday and Wednesday.

Watch your Bulletin Board.

Make your reservation for the luncheon honoring Governor Osborn, Monday, 1:00 P. M., at Information Desk, Ojibway Hotel Annex.

### Michigan State Ferry

#### Fall Schedule

Effective September 10th to November 9th, inclusive  
(Two Boats)

Leave Mackinaw City	Leave St. Ignace
6:00 A. M.	6:00 A. M.
7:30 "	7:30 "
9:00 "	9:00 "
10:30 "	10:30 "
12:00 Noon	12:00 Noon
1:30 P. M.	1:30 P. M.
3:00 "	3:00 "
4:30 "	4:30 "
6:00 "	6:00 "
7:30 "	7:30 "
9:00 "	9:00 "

## HOUSE OF DELEGATES

*Speaker:* H. A. LUCE, Detroit

*Vice Speaker:* F. E. REEDER, Flint

*Secretary:* B. R. CORBUS, Grand Rapids

### First Session

Monday, September 23, 1935—3:00 P. M.  
Ojibway Hotel Annex

1. Call to Order.
2. Report of Credentials Committee.
3. Roll Call of Delegates.
4. Speaker's Address.
5. President's Address.
6. Annual Report of the Council.
7. Appointment of Reference Committees
  - (a) Council Reports
  - (b) Society Business
  - (c) Miscellaneous Business
  - (d) Reports of Committees.
8. Committee Reports:
  - (1) Legislation
  - (2) Woman's Auxiliary
  - (3) Radio Committee
  - (4) Preventive Medicine
  - (5) Delegates to A.M.A.
  - (6) Maternal Welfare
  - (7) Cancer Committee
  - (8) Economics Committee.
9. Recess until evening session.

### Second Session

Monday, September 23, 1935—8:00 P. M.  
Ojibway Hotel Annex

1. Call to Order.
2. Report of Credentials Committee.
3. Roll Call of Delegates.
4. Unfinished Business.
5. Resolutions and New Business. (All resolutions are to be presented in triplicate.)
6. Unfinished Business.
7. Recess.

### Third Session

Tuesday, September 24, 1935—9:00 A. M.  
High School Auditorium

1. Call to Order.
2. Report of Credentials Committee.
3. Roll Call of Delegates.
4. Reports of Reference Committees.
5. Elections:
  - (1) President-Elect.
  - (2) Report of Nominating Committee.
  - (3) Election of Delegates and Alternates to A.M.A.
  - (4) Councilors:
    - 2nd District—J. E. McIntire—Retiring.
    - 3rd District—George C. Hafford—Retiring.
    - 15th District—Frederick A. Baker—Retiring.
    - 16th District—A. S. Brunk—Retiring.
  - (5) Place for 1936 Meeting.
  - (6) Election of Speaker.
  - (7) Election of Vice Speaker.
6. Unfinished Business.
7. Adjournment.

## CREDENTIALS COMMITTEE

- L. T. Henderson, Chairman—Wayne County.  
A. T. Hafford—Calhoun County.  
C. Ten Houten—Kalamazoo County.  
L. W. Switzer—Mason County.  
A. E. Stickley—Ottawa County.

This committee will receive and pass upon Delegates' credentials. Delegates must secure their credentials from their County Secretary.



**DELEGATES**

NOTE: Names of Delegates are in capitals, Alternates in lower case type.

**Alpena County**

F. J. O'DONNELL  
A. R. Miller

**Barry County**

H. S. WEDEL

**Bay-Arenac-Iosco**

L. F. FOSTER  
J. H. McEwan

**Berrien County**

W. C. ELLET  
Dean Richmond

**Calhoun County**

C. S. GORSLINE  
A. T. HAFFORD  
W. L. Godfrey  
A. D. Sharp

**Cass County**

W. C. McCUTCHEON  
W. R. Lyman

**Chippewa-Mackinac**

F. C. BANDY  
J. C. Blain

**Clinton County**

DEAN W. HART  
F. D. Richards

**Eaton County**

A. G. SHEETS  
C. S. Sackett

**Genesee County**

F. E. REEDER  
GEORGE CURRY  
C. F. MOLL  
R. S. Halligan  
Donald R. Wright  
Max Burnell

**Gogebic County**

W. E. TEW  
W. L. Maccani

**Grand Traverse-Leelanau**

E. F. SLADEK  
H. B. Kyselka

**Gratiot-Isabella-Clare**

WILLIAM BARSTOW

**Hillsdale County**

C. J. POPPEN  
H. F. Mattson

**Huron-Sanilac County**

D. D. McNAUGHTON  
W. B. Holdship

**Ingham County**

KARL BRUCKER  
L. G. CHRISTIAN  
Fred Huntley  
Ford DeVries

**Ionia-Montcalm County**

M. A. HOFFS  
Lloyd S. Dunkin

**Jackson County**

PHILLIP RILEY  
JAMES O'MEARA  
H. A. Brown  
C. S. Clarke

**Kalamazoo, Allegan and Van Buren**

CHAS TEN HOUTEN  
F. T. ANDREWS  
R. G. COOK  
F. M. Boothby  
H. H. Stryker  
W. R. Vaughan

**Kent County**

A. V. WENGER  
H. J. PYLE  
R. H. DENHAM  
C. F. SNAPP  
G. H. SOUTHWICK  
Leon Sevey  
J. C. Foshee  
M. E. Roberts  
A. J. Baker

**Lapeer County**

D. W. CRANKSHAW  
D. J. O'Brien

**Luce County**

R. E. SPINKS

**Macomb County**

JOSEPH N. SCHER  
Russel Salot

**Manistee County**

A. A. McKAY  
K. M. Bryan

**Marquette-Alger County**

VIVIAN VANDEVENTER  
R. A. Burke

**Mason County**

L. W. SWITZER  
C. A. Paukstis or  
H. B. Hoffman

**Mecosta County**

GORDON H. YEO  
L. F. Chess

**Menominee County**

W. S. JONES  
H. T. Sethney

**Monroe County**

D. C. DENMAN

**Muskegon County**

ROY H. HOLMES  
Frank Garber, Sr.

**Newaygo County**

W. H. BARNUM  
O. D. Stryker

**Northern Michigan**

FRED C. MAYNE  
Guy C. Conkle

**Oakland County**

FRANK MERCER  
ROBERT H. BAKER  
Ernest Bauer  
Chas. A. Neafie

**Otsego-Montmorency-Crawford-****Oscoda-Roscommon-Ogemaw**

C. R. KEYPORT  
C. G. Clippert

**Ontonagon County**

C. F. WHITESHIELD  
F. W. McHugh

**Ottawa County**

A. E. STICKLEY  
J. G. Huizinga

**Schoolcraft County**

GEORGE A. SHAW

**Shiawassee County**

I. W. GREENE  
W. E. Ward

**St. Clair County**

A. L. CALLERY  
T. E. DeGurse

**Tuscola County**

O. G. JOHNSON  
A. S. Rundell

**Washtenaw County**

JOHN WESSINGER  
DEAN W. MYERS  
JOHN SUNDEWALL  
H. B. Britton  
Mark Marshall  
Harold Barss

**Wayne County**

WM. J. CASSIDY  
JOS. H. ANDRIES  
J. M. ROBB  
T. K. GRUBER  
H. WELLINGTON YATES  
H. W. PLAGGEMEYER  
R. C. JAMIESON  
L. J. HIRSCHMAN  
RALPH H. PINO  
FRANK A. KELLY  
L. T. HENDERSON  
WM. J. STAPLETON, JR.  
R. M. McKEAN  
A. E. CATHERWOOD  
A. W. BLAIN  
HUGO A. FREUND  
W. R. CLINTON  
W. D. BARRETT  
E. D. SPALDING  
C. F. BRUNK  
A. F. JENNINGS  
H. F. DIBBLE  
C. E. UMPHREY  
LOUIS J. GARIEPY  
DAVID I. SUGAR  
A. P. BIDDLE  
JOHN L. CHESTER  
Chas. S. Kennedy  
Fred B. Burke  
Stanley W. Insley  
Wm. S. Reveno  
C. E. Dutches  
C. K. Hasley  
E. C. Baumgarten  
B. U. Estabrook  
A. H. Whittaker  
M. H. Hoffmann  
Basil L. Connolly  
L. O. Geib  
R. V. Walker  
C. R. Davis  
Allan McDonald  
H. L. Morris  
Howard W. Peirce  
Frank Kilroy  
A. J. Himmelhoch  
W. R. McClure  
Frank A. Weiser  
Frank Purcell  
Wm. H. Honor  
V. L. Van Duzen  
W. P. Woodworth  
Daniel P. Foster  
H. W. Hewitt

**Wexford County**

W. JOE SMITH  
J. F. Garber

**COMMITTEE REPORTS****RADIO COMMITTEE**

To the House of Delegates:

As per the request of the Secretary, I am giving a report on the work of the Radio Committee for 1934-1935.

The Committee is as follows:

Dr. Wm. J. Stapleton, Jr., Detroit, Chairman.  
Dr. A. J. Himmelberger, Lansing.  
Dr. Kenneth Lowe, Battle Creek.

In the letter of appointment was the following paragraph: "The Executive Committee is instituting a program looking to the correlation and direction of committee activities. In the furtherance of this program, the Secretary was instructed to communicate with the Chairman of the Radio Committee, advising him that it is the desire of the President and the Executive committee that as part of their program they include several broadcasts on 'Incidence of Sickness as a Liability' for which provisions should be made. In formulating the work of your committee, I trust you will work out his desire."

In accordance with the above, the chairman wrote the A.M.A. for material along this line. The following quotation from Dr. R. G. Leland, Director of the Bureau of Medical Economics, is: "The subject of medical economics in all of its phases is our complex, that it is difficult to present a portion of it in a fifteen minute radio talk without the danger of being misunderstood. I have refrained several times from presenting these subjects over the radio, and I am still of the opinion that this is one phase of medical broadcasts that should be avoided. If a medical economics broadcast is not extremely well done, the dangers therefrom far outweigh the gains. It is possible that, as we accumulate more information, we may be able to present the subject at some future time, but I do not recommend it at present."

A copy of this letter was sent to the secretary, who replied that the matter would be referred to the Executive Committee for consideration.

The Radio Committee in a letter from the President was asked to continue its work and amplify the same. Accordingly, a letter was sent to the Secretaries of all County Societies who had a radio station in their district. The list consists of the following counties: Calhoun, Genesee, Gogebic, Kalamazoo, Kent, Lapeer, Marquette, Muskegon, Ing-ham, and Wayne.

Listening to radio is second only to reading newspapers and magazines in a recent survey of the leisure hours of 5,000 people as reported by the National Recreation Association.

Listening to radio ranked second in the number of individuals by whom it was reported as well as among the activities taken part in most often.

In view of the above, we quote the following from the *Detroit Medical News*:

**"Air Conditioning" Necessary**

In spite of persistent protests by medical and educational organizations, an unwholesome situation with respect to radio advertising still exists. The old game of baiting the public goes merrily on—from early morning to the final "sign-off" at midnight. Extravagant therapeutic claims for remedies of dubious value—blatant ballyhoo of cosmetics that cannot conceivably justify the claims made for them, and, above all, the poor taste displayed in praising (usually at the dinner hour) the virtues of laxatives and deodorants, are evidences of a sorry misuse of an important vehicle of public information. Attempts to justify this practice on the ground that radio entertainment is offered free to the public at



great expense to the sponsor, and that surcease from annoying broadcasts may be obtained by the simple expedient of turning the dial, do not meet the objections. The simple fact that the general public is not only being duped but actually harmed by fraudulent claims merits a determined effort to do away with the evil. We can never forget the case of an old man presented before a clinical-pathological conference who had died of a perforated gastric ulcer after taking a dose of a highly-advertised cathartic, praised nightly on a well-known program as a quick, reliable, and harmless remedy for stomach distress. The evils of self-medication which contribute so largely to the continued high mortality rate of appendicitis alone will never be eradicated as long as this situation is allowed to exist. At the recent convention of the Advertising Federation in Chicago, Chairman E. J. Adams, of the special board of investigation of the Federal Trade Commission, warned the radio industry to follow the lead of the newspapers and clean its house of bad advertising.

It is gratifying to note that past protests have not been entirely fruitless. The Columbia Broadcasting System has recently announced a decision to exclude from its broadcasts all descriptions of body functions and symptoms which are generally not considered acceptable topics in social groups. The National Broadcasting Company has for some time been quietly eliminating some of the more meretricious features. These are steps in the right direction which other chains would do well to follow. But this is only the beginning. The Augean stables needed more than a deodorant!

That the physicians of Detroit can play Hercules and remedy local conditions at least is demonstrated by the fact that, as a result of protests by the Milwaukee professions, Station WTMS (*The Milwaukee Journal*) has decided to exclude all "medical accounts" except those approved by the Milwaukee County Medical Society. Following this lead, Station WISN (*The Wisconsin News*) has requested the Milwaukee County Medical Society to designate which of its broadcasts do not meet with approval. While no concerted action by the medical profession has been taken to improve the situation in Detroit, the executive office of the Wayne County Medical Society was recently consulted by a well-known radio commentator of Station WWJ (*The Detroit News*) concerning the extravagant claims made for a highly-advertised patent medicine. He was supplied with authentic information concerning this product and, as a result, certain objectionable features of the broadcast have been deleted. Radio stations WJMR, WXYZ, CKLW, WMBC, WJBK, WEXL please follow!

The Committee on Public Information of the Wayne County Medical Society has performed a commendable work in providing authoritative information on medical subjects through weekly broadcasts sponsored by the Society. The educational value of these programs is unquestionable. The *Detroit Medical News* suggests that the activities of this committee be extended—that it be empowered to wage an active fight against the fraud and quackery in radio advertising. What Milwaukee has done can also be done in Detroit.

Instead of "tuning off" an objectionable program, "ring up" the offending station and voice your objection.

The Radio Committee supplies talks to the various groups at any time. We obtain many of these from the A.M.A. Others are written by various physicians, copies are made, some go to the A.M.A. and others to various county groups. We are also in contact with Dr. Barnes of the A.M.A., who is most helpful.

We receive the *Bulletin of Education by Radio* published in Washington.

We receive from time to time letters asking for information regarding talks and presentations from people interested in the use of the radio for various purposes.

"The Physician's Duty to the Public, the Principles of Medical Ethics of the A.M.A.," has the following rule with regard to the obligations of the medical profession to the public: "Physicians, as good citizens and because their professional training specially qualifies them to render this service, should give advice concerning Public Health of the community. They should bear their full part in enforcing its laws and sustaining the institutions that advance the interests of the community. They should coöperate especially with the proper authorities in the administration of sanitary laws and regulations. They should be ready to counsel the public on subjects relating to sanitary police, public hygiene and legal medicine."

Appended hereto is a list of radio subjects presented through Ingham, Wayne, and Gogebic County Medical societies.

Respectfully submitted,  
DR. WM. J. STAPLETON, JR.,  
Chairman.

## PREVENTIVE MEDICINE COMMITTEE

To the House of Delegates:

I wish to submit the following report for the year 1935 in behalf of the Preventive Medicine Committee.

This committee held three meetings during the past year: on November 6, 1934, at Lansing, Michigan, at the Hotel Olds; on June 26, 1935, at Flint, Michigan, at the home of Dr. F. B. Miner, and on August 11, 1935, at "Point Lookout," summer home of Dr. J. D. Foster, Au Gres, Michigan.

The committee wishes to thank Drs. Slemons and Barrett of the State Health Department and Dr. Vaughan of the Detroit Department of Health for their coöperation and advice as well as for their attendance at the committee meetings.

The Preventive Medicine Committee recommends to the Michigan State Medical Society:

1. (a) That under the auspices of the Joint Committee and in coöperation with the University of Michigan, intensive resident courses be given at the Herman Kiefer Hospital, Detroit, for which those attending may receive University credit, the courses to be given as follows:

- 1—5 day week—Contagious Diseases.
- 1—5 day week—Tuberculosis.
- 1—5 day week—Venereal Diseases.
- 1—5 day week—Administration and Laboratory.
- 1—5 day week—Prenatal and Infant Feeding.

(b) That one day in each Regional Conference be devoted to Preventive Medicine and Public Health, with such programs as were conducted in Bay City, Traverse City and elsewhere by the Preventive Medicine Committee.

2. County Health Units (not practising units): This committee reaffirms its belief that medical participation can best be carried out under a plan of County Health Units. Information should be imparted to the component medical societies relative to funds available for Public Health projects under the National Security Act, acquainting them with their rights and privileges, and asking them to urge their governmental units to submit to the Michigan Department of Health requests for such funds in such manner as may be acceptable to the

physicians of that particular County Medical Society.

3. The committee suggests that continued coöperation through a joint committee, with the Michigan Tuberculosis Society and the Michigan Department of Health, since the passage of the National Security Act is more than ever desirable. The following plan was adopted by the Michigan Tuberculosis Society and the Council of the Michigan State Medical Society:

- (1) A Tuberculosis Bureau with a trained director.
- (2) A case-finding program.
- (3) A hospitalization program.
- (4) Use to be made of the practising physicians and local health equipment.

To detail the above principles the following outline was adopted as indicated:

A Tuberculosis Bureau in the State Department of Health to be active in,

- (1) *Case Finding*, by
  - (a) Stimulating interest in diagnosis and case reporting by private physicians, by
    1. Instruction—post-graduate in coöperation with the University.
    2. Assistance in providing x-ray facilities.
    3. Proper reimbursement of physicians for diagnosis and care of indigents.
    4. Aid in placement for care.
    5. Check-back on all reported cases for examination of contacts.
  - (b) Lay Education in Tuberculosis, by
    1. Coöperation with existing organizations, such as the Michigan Tuberculosis Society, and the Preventive Medicine Committee of the State Medical Society.
- (2) *Hospitalization*, by
  - (a) Insistence that counties properly assume financial burden of care of indigents.
  - (b) Studying available facilities for care and supervising care utilizing all available tuberculosis beds and using beds in general hospitals where proper facilities exist.
  - (c) Recommending additional facilities where definitely needed.
- (3) *After Care and Follow-up*, by
  - Looking after proper placement of patient after hospital treatment is over by referring to proper medical care at home, and to proper rehabilitation assistance as far as can be provided in needful cases.

4. That an exhibit at the State Medical Meeting be given by the Michigan State Health Department, Michigan Tuberculosis Society, and Preventive Medicine Committee, this to be a demonstration of Preventive Health methods.

5. The committee again suggest the hiring of a full-time medical coordinator to carry out the program of the Preventive Medicine Committee, as suggested in the annual report and accepted by the last meeting of the House of Delegates.

6. The committee recommends that County Medical Societies give program space to Preventive Medicine.

Respectfully submitted,  
LEDRU O. GEIB, *Chairman*.

#### CANCER COMMITTEE

To the House of Delegates:

During the past year four meetings of the Cancer Committee have been held. The committee has felt that its function was largely that of cancer education both in and outside of the profession and at its first meeting outlined the following program:

1. Cancer education in high schools and parent-teacher groups.
2. Utilization of newspapers and the radio as media for presenting cancer facts to the laity.
3. Extension of postgraduate medical education along cancer lines.
4. Investigating the possibility of obtaining a fact-finding survey of cancer in Michigan.

The high school education program was started in Grand Rapids by Dr. Vanden Berg, who during the winter gave illustrated cancer talks before about forty high schools and parent-teacher groups in and about Grand Rapids. At the present time arrangements are being made to present similar programs in and about all of the principal cities of the state by members of the Society well qualified for the work.

The Council of the Society in January appropriated \$500 for a newspaper cancer campaign during the current year. As a result over 400 newspapers of the state are at present receiving short cancer talks weekly for twenty-six weeks. This work is being supervised by Dr. Weller and the University of Michigan has contributed its facilities generously for this purpose. In the next few months one of the large metropolitan newspapers has promised to devote considerable space to cancer at the Committee's direction.

Dr. Bruce has manifested much interest in the work of the Committee and promises the development and extension of cancer education as an activity of the Post-Graduate Department of the University.

Arrangements were successfully made with the American Society for the Control of Cancer for a cancer survey by Dr. F. L. Rector representing the American Society. This survey, which required three months, has now been completed and will be reported in the JOURNAL in the near future. The Michigan State Society incurred no expense as a result of the survey.

The Committee is now making arrangements for a cancer exhibit for the next annual meeting of the Society at the Soo.

All meetings of the present cancer committee have had a perfect attendance. The Committee wishes to express its appreciation for the support and sympathy it has received from the officers of the Society.

There can be no doubt that this Committee has an important function in centralizing, crystallizing and coordinating the activities of several similar organizations in and out of the State which are interested in an improvement of the cancer situation.

OSBORNE A. BRINES, *Chairman*.  
HAROLD JACOB  
C. C. SLEMONS  
HENRY VANDENBERG  
C. V. WELLER.

#### WOMEN'S AUXILIARY ADVISORY COMMITTEE

The activities of the Advisory Committee to the Woman's Auxiliary have been confined the past year to personal conferences with various officers of the state and some county organizations. Our advice has been sought in connection with legislative and economic questions. It was the pleasure and privilege of the chairman to attend meetings of the state executive committee and officers, as well as meetings of the Wayne and Jackson County Auxiliaries. The Woman's Auxiliary is doing a fine job in an effective way and excellent results may constantly be expected.

LOUIS J. HIRSCHMAN, *Chairman*.



## UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

and

## THE MICHIGAN STATE MEDICAL SOCIETY

Progressive Four-Year Program of Postgraduate Study  
1935-36 Schedule

## Short, Intensive Courses

**Grand Rapids****Bay City****Flint****Manistee-Traverse City-Cadillac, Jointly****Battle Creek-Kalamazoo, Jointly** **Upper Peninsula\***

One day each week for eight weeks, beginning week of September 30. The week of October 14 will be omitted to permit attendance on Inter-State Postgraduate Medical Association Assembly at Detroit.

The following subjects will be presented:

Maternal Welfare; Gynecology. Pulmonary Disease; Diseases of Joints.

Neuro-psychiatry; Metabolic Diseases. Diseases of the Blood and Blood-forming Organs. Child Welfare. Skin Diseases; Cancer. Genito-Urinary Diseases; Ano-Rectal Diseases. Fractures; Biliary Tract Disease.

---

One Week Courses

**Detroit.** Proctology. Gynecology, Obstetrics and Gynecological Pathology. Minor, Emergency and Traumatic Surgery. General Medicine. Genito-Urinary Surgery. Pediatrics.

**Ann Arbor.** Electrocardiographic Diagnosis. Diseases of Blood and Blood-Forming Organs. Diseases of Metabolism. Ophthalmology and Otolaryngology. Roentgenology. Surgery. Laboratory Technic.

For information, address:

Department of Postgraduate Medicine  
University Hospital  
Ann Arbor, Michigan.

---

\*By request of Upper Peninsula physicians the program will be deferred until May, 1936.

# DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

## MINUTES OF THE AUGUST 1 MEETING OF THE EXECUTIVE COMMITTEE OF THE COUNCIL

The Executive Committee met at Saginaw August 1 pursuant to a special call to discuss problems presented by recent legislative action relative to the care of afflicted children in Michigan, and to hear Doctor Fenech, of the Crippled Children's Commission, who was present by invitation.

Present: Chairman Powers, President Smith, President-Elect Penberthy, and Doctors Boys, Carstens, Heavenrich, McIntyre and Councilor Urmoston, Ex-President LeFevre, Doctor Fenech, Secretary-Elect Ekelund and Secretary Corbus.

The Secretary briefly reported on the present status of the program for the Annual Meeting. He stated that the council at the January meeting, pursuant to a resolution presented by section officers, had established the Andrew P. Biddle Lectureship. Under this resolution it is provided that recognition be given the orator of the occasion. The Secretary requested the committee to decide the form of this recognition. On motion of McIntyre-Heavenrich, the chairman was directed to appoint a committee for this purpose and the tentative sum of twenty-five dollars was appropriated for the use of this committee. The Chairman appointed President Smith, President-Elect Penberthy and Doctor Carstens as the Committee.

The Secretary noted that the Budget Committee had neglected to place in the budget the usual appropriation for "Society Activities." Since this appropriation has always been in part used as a contingent fund, he suggested that authorization be given to transfer the Contingent Fund to this heading together with \$800.00 from the Committee Reserve Fund, these items equalling the usual appropriation. On motion of Heavenrich-Luce it was so ordered.

The Secretary read a communication from Doctor Stapleton and Mr. Barbour relative to a recent malpractice suit where the defendant hired local counsel without authorization, and requests payment for such services. On motion of Luce-McIntyre, the Secretary was instructed to write the Secretary of the Medico-Legal Committee to the effect that such payment would be contrary to the established policy of the Society and to state that the Executive Committee with the representations now before it, is not convinced that the Society has any responsibility in the matter.

Communication was presented from the Bruce Publishing Company regarding the obligation of the Society for the publication of the Medical History of Michigan. The communication pointed out that no final settlement had been made, that the publication showed a loss of about seven thousand dollars, that the Bruce Publishing Company was willing to share that loss with the State Society but desired that the matter be cleaned up as quickly as possible. On motion of Luce-McIntyre, the Secretary was instructed to present a full accounting as a special order business for the September meeting of the Council. In discussion, the educational value of the History was stressed by Doctor Penberthy and he suggested that the placing of copies of the History in High Schools and Libraries might be a worthy objective for which funds might be obtained from some philanthropist or philanthropic institution. Heavenrich moved, seconded by McIntyre, that a

committee be appointed to contact the directors of the Rackham Foundation with the suggestion. Chairman Powers appointed Penberthy, Luce and Carstens.

The next order of business was the discussion of the new Afflicted Child Act, the occasion for this special meeting. The Chairman called upon Doctor Fenech, medical representative of the Crippled Children's Commission, a transcript of whose talk follows.

### History and Present Status of the Afflicted Child Act

Doctor Fenech traced briefly the history of the Crippled Children's Commission from its beginning in 1917. He noted that it was a legislative response to a public demand and especially was the result of activity on the part of the Crippled Children's Society, which had long been active in the work. He commented on the established policy of the Commission, which was to give the best professional care possible to the crippled child, with a reasonable remuneration to the specialist on whom the responsibility of the treatment of these cases rested. He spoke of the growth of the work as the people of the state became aware, through national luncheon clubs and other organizations, of the opportunities which were presented.

He stated that Act 274 of 1913, as amended by Act 248 of 1933, placed the administration of the Afflicted Child Act under the Crippled Children's Commission. With this additional load the work of the Crippled Children's Commission has been made increasingly difficult by reason of:

First, the increase in the load. Whereas before the passage of this Act about five thousand crippled children were passing through the Commission, there are now upwards of twenty thousand.

Second, the inability to obtain sufficient appropriation to adequately enlarge the office staff to the size necessary to efficiently take care of the increased load. As a consequence deficits have been incurred yearly.

Doctor Fenech showed that following the passage of the Afflicted Child Act of 1933 (Act 248), an appropriation of \$800,000.00 was made to take care of the administration of both the Crippled and Afflicted Child Act. (It could not be ascertained how much would be actually needed.) However, it must be noted also that the legislature of 1933 made a deficiency appropriation of approximately \$950,000.00 to the general fund designated "Medical Care of Children," which was owing from the previous year for care of the afflicted child. This deficit was not one of the Crippled Children's Commission but one shifted to it by the passage of Act 248 of 1933. The deficit which because the administration of Act 274 as amended by Act 248 of 1933 was placed under the Commission, had to be paid through it with the above mentioned deficiency appropriation.

This same legislature made a special appropriation later of \$500,000.00 to take care of the work. This makes a total of \$2,250,000.00 but only \$1,300,000.00 was actually spent in the years 1933-1934 for the administration of both the Afflicted and Crippled Children's Act.

The appropriation for 1934-1935 was \$800,000.00. The legislature of 1935 made a deficiency appropriation of \$565,000.00, making a total of \$1,365,000.00 and there will still be a deficit of probably \$200,000.00 up to June 30, 1935.

This explanation was made to show that the appropriations made to take care of the two above mentioned acts had always been insufficient. This may be reasonably explained by the fact that the legislature of 1933 had no basic figures or statistics to base an appropriation upon and because of this any appropriation made was only a rough estimate.

It is to be noted here also that in Act 248 of 1933 the



physician's, surgeon's and dental fee was to be paid by the County and not by the State. Also, the transportation of the child was to be paid three-fourths by the State and one-fourth by the County.

Doctor Fenech then turned his attention to Bill 277, an Amendment to the Afflicted Child Act 274, now known as Act 94 of 1935. This bill provides for "reasonable" compensation to physicians to be paid by the State. He commented that the Crippled Children's Commission thoroughly approved of the new bill and pointed out that it had already shown by its actions its interest in the professional care of the crippled child and its desire that the doctor be properly remunerated for his services.

An appropriation of \$1,400,000.00 had previously been asked for by the Commission, but this would be quite insufficient to cover the payment to doctors provided for in the amended bill. Since Bill 274 carried no appropriation, the Commission proposed by resolution to ask the legislature for an additional appropriation to take care of these professional fees.

The Legislative Committee of the State Medical Society was invited to come before the Crippled Children's Commission at its May meeting. Immediately preceding this meeting and later present with the Legislative Committee, appeared before the Commission a Mr. Lambert who informed the Commission that he, rather unofficially perhaps, represented the Michigan State Medical Society and that the Society desired that this resolution be withdrawn. He stated that he himself or the Society would guarantee that they could and would go out and get sufficient funds. The Legislative Committee, who came in shortly, confirmed this statement, and stated that they desired that the Commission withdraw any request for an appropriation to be attached to Bill 277 at this time. The spokesman for the Legislative Committee said that it was felt by the Committee that such an addition would prevent the passage of the bill. It was definitely pointed out to the Crippled Children's Commission by the Legislative Committee that it was the desire of the State Society that the bill be passed as drawn; that the physicians would take their chances in getting their money, and that anyway the principle in the Bill was worth the sacrifice. With this statement the Commission withdrew their proposed resolution.

Following the passage of the Bill but before the Governor signed it, the doctors, through a committee, made the statement that the physicians of the State would be satisfied with 50 per cent of the existing fee schedule set up on June 4, 1934, for the payment of physicians under the Crippled Children's Act. It is Doctor Fenech's understanding that representations were made to the Governor that the medical profession would be favorable to the Bill as it stood with the full understanding that at the present time there were not sufficient funds to carry on the work for any length of time, either on the present fee bill, schedule A, or on a 50 per cent reduction from this.

And so the Bill became Act 94 of 1935. Doctor Fenech then reviewed the meetings of the Crippled Children's Commission with the Auditor General and Committee appointed by Chairman Powers of the Council.

He noted that there has been some confusion because of the careless wording of the bill which makes its interpretation difficult. He noted that the appropriation of 1935-1936 of \$1,400,000.00 had been cut by the Governor (as had all others) 5 per cent, reducing it to \$1,330,000.00. He further commented that a strict interpretation of the appropriation as made was difficult and that it was causing grave concern to the officers and members of the Crippled Children's Society who are concerned lest their work of years go to pieces through the failure of a specific appropriation to carry on the work with the crippled child. The situation having come to the knowledge of the officers of this Society, one can be assured that every political effort will be made to straighten out the tangle and restore the bill to the intended purpose at the time it was passed. To those of us who are equally interested in the Afflicted Child this tangle perhaps offers an opportunity for a more satisfactory operation of the Afflicted Child bill. It is understood, and Doctor Fenech confirms, that it is the

intention of Governor Fitzgerald to call together representatives of this Society and the Crippled Children's Commission and other individuals who have an especial interest, in order that he may discuss with them the situation. It seems apparent that the Crippled Children's Commission are as anxious to work in harmony with the State Society as we are with them. It is hoped that out of such meeting may come some solution which will permit a satisfactory operation of the Act. In the meantime, the Crippled Children's Commission seems to have no recourse. The funds at its disposal are only sufficient to pay hospitalization and administration expenses. Though it desires to operate the Afflicted Child Act in the same high grade way that it has operated the Crippled Child Act, and give the same consideration to the Afflicted Child and to the doctor taking care of him as they have given to the Crippled Child and his surgeon, this is quite impossible except as funds are provided.

Following Doctor Fenech's talk there was a full discussion. It was felt that no action could be taken until after the meeting which it is expected the Governor will call.

Adjournment at 12 M.

BURTON R. CORBUS,  
Secretary.

## COUNTY SOCIETIES

### MUSKEGON COUNTY

Special Meeting, August 16, 1935. Subject: "What Shall We Do About It?" (From the *Bulletin of the Muskegon County Medical Society*.)

The principal reason for this special meeting, as most of you know, is to consider what steps should be taken in regard to the arbitrary action of the Crippled Children's Commission in reducing the doctor's fee for attending afflicted children. You undoubtedly will hear the arguments presented from several different angles as to why we should or should not refuse to accept the provisions of the Afflicted Children's Act as interpreted by the Crippled Children's Commission. There are many arguments on both sides and the editor is listing them with comments, which you must remember are his personal views. Briefly the situation is as follows:

The Afflicted Child's Act was passed during the last legislature to provide for the hospitalization of the afflicted children in local hospitals rather than in the University Hospital. As the bill was not passed until after the appropriation bills had been concluded, there was no possibility of obtaining extra funds. The Legislative Committee of the State Society in order to procure the support of the Crippled Children's Commission, offered to counsel the profession to accept the Schedule A fees for a time and then 50 per cent of these fees and in event of depletion of the fund, to continue a 2 per cent of Schedule A. The bill went into immediate effect the last part of June. The Crippled Children's Commission paid the bills submitted in June at 50 per cent of the Schedule A fees and then ruled that the first of July bills would only be paid at 2 per cent rates, which means a blanket fee of a dollar per case.

Dr. Fenech, who is the only medical man on the Crippled Children's Commission, claimed that this fee was made ridiculously low in order to induce the Governor to arrange for further appropriation.

The orthopedic surgeons, directly under the Crippled Children's Commission, are still being paid their same fees.

Hospitals which are approved by the American College of Surgery are being paid \$4.00 a day for these cases, other hospitals \$3.25 a day, plus certain extras. The doctor is paid a dollar a case whether acute or chronic, medi-

cal or surgical, regardless of the time involved in the care.

It is up to you either to recommend to the Staffs of our hospitals to withdraw their consent to coming under the Afflicted Child's Act or to continue for an indefinite period under this set-up.

Here are a few of the arguments for continuing. The hospitals need the money. (Well, so do the doctors. I have yet to know of a hospital which will take in a case free in order to allow the doctor to collect a fee.) And again, business is picking up to a considerable extent so that the State Funds are not so vital to hospitals. And again, Muskegon County Doctors are putting in to the hospitals \$20,000 to \$25,000 a year on adult indigents for whom they receive no direct compensation and the society receives about a third of the regular fees. Of course, this argument in regard to the doctors' support of the hospital could be prolonged indefinitely, as it involves many angles.

The second most common argument is that if we refuse to accept these provisions, we will be throwing down the Legislative Committee. (I am sure I have a great deal of respect and have expressed my appreciation for the Legislative Committee's work, but Muskegon County had settled this question two years ago before the Legislative Committee had started to work on it. Our society settled it by establishing the principle that if any one is paid, the doctor should also be paid. I can conceive of no reason why the physicians should do free work for the State of Michigan. No other professional or business man does and many of them are paid more for State work than for private work. I am sure also that if the doctor goes ahead and takes care of these patients at a dollar a throw, that he is going to have one whopper of a time to ever get a reasonable fee out of the State. The fact that we have been saps enough to do this previously is the reason why the Crippled Children's Commission felt very magnanimous in submitting Schedule A, which is from a quarter to a half of our minimum fee schedule.)

The next argument is that if we continue being dollar a case men, the Governor will call a special meeting of the Legislature and appropriate a couple of million dollars for this service. (My reaction to this ephemeral wisp of chimerical promise is that highly expressive phrase, "Oh, yeah!") If any one can reasonably believe that a Governor who has attempted to cut down expenditures is going to go out of his way to spend more when there still are spineless saps who are afraid to demand their rightful fee for services rendered or who feel that they are currying high favor with hospital authorities by this acceptance. They probably also believe that Dr. Townsend is a reincarnation of Mohammed. I hope that the proponents of the dollar a case idea will bring up some more arguments Friday night. With one word of caution, do not let yourselves be deceived. You must either continue to accept this mandate of the Crippled Children's Commission or the staffs of the hospitals must withdraw their consent to the hospitals being under the Afflicted Children's Act.)

### When Wrong is Right

A football player in a small college was extraordinarily dumb, but to the surprise of everyone, he passed all of his work, including a special examination in chemistry. The chemistry professor was asked about it, and he said, "I decided I would let him pass if he answered 50 per cent of the questions correctly.

"I asked him two questions—one he answered wrong—one right. Therefore I let him pass. The first was 'What color is blue vitriol?' He answered, 'Pink.' That time he was wrong. The other was, 'How do you make sulphuric acid?' He answered that he didn't know. That time he was right."

## WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, President, Kalamazoo.  
MRS. F. M. DOYLE, Secretary, Kalamazoo.

Dear Auxiliary Members:

Another year has rolled around. The time is again here to renew our energy and gain new inspiration. It is not for us to question why we are organized, inasmuch as our dearly beloved and now departed Honorary President, Mrs. Caroline Bartlett Crane, saw a great need for promotion of the spirit of brotherly love.

Let us make this our best meeting. Be prepared to contribute your idea for a better organization. Come and renew old acquaintances and make new contacts.

Sault Ste. Marie is one of the most attractive playgrounds of our country.

Enthusiastically,

(MRS. F. T.) CHARLOTTE ANDREWS, *President*.

The ninth annual meeting of the Woman's Auxiliary to the Michigan State Medical Society will be held at Sault Ste. Marie, Michigan, September 23, 24, and 25, 1935.

The following proposed amendment to the Constitution is to be voted upon at the General Assembly: Art. 7, Section 2. To amend by adding after the first sentence: "The Presidents of County Societies are invited to attend these meetings."

A good attendance is desired and an interesting and entertaining program is being arranged.

(MRS. F. M.) WILMA G. DOYLE, *Secretary*.

## COMMUNICATIONS

Editor, Journal of the Michigan State Medical Society:

Thank you for permitting me to read the letter from Mr. G. E. Harriman, executive secretary of the Non-Sectarian Anti-Nazi League, in which he characterizes my address on "Heredity and Environment" as being "not only tendentious, but as definitely anti-Semitic propaganda." He also asserts that one of my statements seems to him "willfully misleading" and thinks that your "valuable journal should not be made a vehicle for propaganda of this character."

There was absolutely no intention of casting aspersions upon the Hebrew race in my address; instead I plead for education against reproduction by the *constitutionally inferior* of all racial types.

Mr. Harriman seems to be unaware of the fact that I was one of the speakers at the great mass meeting held in Madison Square Gardens protesting against the unfair treatment of the Jews during the Hitler regime.

LEWELLYS F. BARKER.

New London, N. H.  
August 5, 1935.



## OBITUARY

### Dr. H. R. Varney

Dr. H. R. Varney of Detroit died suddenly, July 8, 1935, on the train while on his way home from his vacation. He was sixty-four years old. The cause of death was angina pectoris. Dr. Varney graduated from the Vermont College of Medicine in 1893. He specialized in dermatology and was at one time professor of dermatology and syphilology in the Detroit College of Medicine. He was a member of the American Dermatological Association and formerly a member of the International Congress of Dermatology. He was formerly on the staffs of Harper Hospital and the Children's Hospital and within a year of the time of his death he was a member of the staff of the Charles Godwin Jennings Hospital. He had retired from active practice the past year. He is survived by his wife and one adopted son.

### Dr. I. L. Polozker

Dr. Isaac L. Polozker died on August 21, at his home in Detroit of cardiac disease at the age of sixty-two years. Dr. Polozker was well known to the medical and legal profession of Detroit. Born in Russia in 1873, he came to the United States in 1889, and, following pre-medical training in New York, he moved to Detroit, where he attended and graduated from the Detroit College of Medicine. Dr. Polozker was Wayne County physician from 1898 to 1907. He had taught in the Detroit College of Medicine since his graduation in 1897. His early years were largely spent in pediatrics, but he eventually turned his attention to psychiatry. At the time of his death, he was Recorder's Court psychiatrist. Dr. Polozker had been on the staffs of St. Mary's, Providence, Eloise and Receiving Hospitals. Dr. Polozker was a member of the Wayne County, Michigan State and American Medical Associations. He is survived by his wife, three brothers, Isador H., Samuel F. and Dr. J. H. Polozker, and a sister, Mrs. Samuel J. Eder, all of Detroit.

### Dr. Edward J. Dougher

Dr. Edward J. Dougher, dean of the medical profession in Midland County, died at Mercy Hospital, Bay City, on July 26, 1935, at the age of seventy-one years.

Dr. Dougher was born at Pittston, Pennsylvania, on September 18, 1863, and was a graduate from Bloomsburg Normal College Bloomsburg, Pa. After graduation he served as instructor at this institution for five years, before deciding to study medicine. He attended the Baltimore Medical College, Baltimore, Md., from which institution he graduated in 1898, and began to practice his profession at Marquette, Michigan, in 1899. After spending a year at Marquette, he moved to Midland, where he practiced for the past thirty-five years. He was married to Miss Ellen E. Collins, of Winthrop, Iowa, in 1916.

Dr. Dougher was always an active member of the Midland County Medical Society and for the past many years has been its efficient secretary. He was also a member of the Michigan State Medical Society. He was held in high esteem by the other members of his profession, and through his many years of practice he endeared himself to the community through his untiring efforts among his many patients. He was always deeply interested in the welfare of the community and took an active part in the civic affairs of the city and county.

## MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner  
LANSING, MICHIGAN

### ALLOTMENTS UNDER THE SOCIAL SECURITY ACT\*

The Social Security Act, recently passed by the U. S. Congress, makes available for each fiscal year, beginning with the fiscal year ending June 30, 1936, the sum of \$8,000,000 to be used, in the language of the Act, "for the purpose of assisting states, counties, health districts, and other political subdivisions of the states in establishing and maintaining adequate public health services, including the training of personnel for state and local health work."

Under the terms of the Act the amounts of the allotments are to be determined on the basis of population, special health problems, and financial needs of the several states.

Fifty per cent of the total fund, or \$4,000,000, shall be allocated on a population basis to the fifty-one states and territories. One-half of this amount is to be set aside for evenly matching existing appropriations of public funds for public health work, the remainder to be used for matching new appropriations; the latter provision, however, may be ignored if substantial appropriations for subsidizing local health work are already provided by states. These funds are to help fill the gaps in the basic minimum organization requirements and to provide a well-rounded program.

Twenty per cent of the total fund, or \$1,600,000, will be allocated on the basis of financial needs. Five per cent of this sum will be distributed evenly between the states and territories; fifteen per cent, \$1,200,000, will be placed in an "equalization fund" and distributed to states least able to provide funds for health service, the need being determined on the basis of the financial ability of the state, as expressed in terms of per capita income. The money from the equalization fund must be expended exclusively for local health service and need not be matched by state funds.

For those states having special health problems a sum of \$1,200,000 will be set aside. In allocating these funds the word "needs" is interpreted to mean necessity arising out of high morbidity or mortality from particular causes, the existence of special health problems such as malaria, plague, hookworm, silicosis and similar geographically limited diseases or other conditions that result in inequality of exposure to public health hazards. Allocations from this fund must be matched by state funds.

The remaining fifteen per cent of the total fund, \$1,200,000, is to be expended for the training of personnel, to fill quickly the gap that will exist between the trained personnel available and that demanded by the increased number of positions. This money is to be used in the establishment or strengthening of training centers and to pay living stipends and travelling expenses of trainees while in training and for a reasonable period preceding employment.

The Surgeon General of the Public Health Service determines the amount to be paid to each state. The moneys so paid shall be expended in accordance with plans presented by the State Department of Health and approved by the Surgeon General of the Public Health Service.

\*EDITOR'S NOTE—A congressional filibuster prevented the passage of the necessary appropriation. It is expected, however, that funds will be obtainable from other sources.

In addition to the amounts enumerated above, to be expended directly for rural health service, an annual grant of \$3,800,000 is made for the extension and improvement of services for promoting the health of mothers and children; a grant of \$24,750,000 for aid to dependent children for the year ending June 30, 1936, and for each year thereafter a sum sufficient to carry out the provisions of the act; an annual grant of \$2,850,000 for the care of crippled children.

The money for maternal and child welfare will be expended especially for services in rural areas. The basis of allotment for these funds is a direct grant to each state of \$20,000 and such part of \$1,800,000 as the number of live births in the state bears to the total number of live births in the United States. In addition to these allotments, \$980,000 will be allotted according to the financial need of the state, for assistance in carrying out its state plan, as determined by the number of live births.

The plans for maternal and child health services provide for financial participation by the state and are administered by the state health department, after approval by the U. S. Children's Bureau.

C. C. S.

## GENERAL NEWS AND ANNOUNCEMENTS

### Roentgen Therapy of Cancer

Dr. Henri Coutard, chief of the department of roentgentherapy of cancer at the Curie Institute, University of Paris, France, will deliver the twelfth Lewis Linn McArthur lecture of the Frank Billings Foundation of the Institute of Medicine of Chicago, in the theater of the Chicago Woman's Club, 72 East Eleventh Street, at eight o'clock on Tuesday evening, October 1. The subject of his illustrated lecture will be, "The Conception of Periodicity as a Possible Directing Factor in the Roentgentherapy of Cancer."

### Doctors' Cruise to Sault Ste. Marie, September 21 to 26, 1935

Six days on the S.S. Hamonic.

Four days out of your office.

A vacation.

Entertainment on board boat and no concern about hotel accommodations.

The total cost \$57.50 per person—the boat is your hotel.

There is still an opportunity to make reservations if you act quickly.

Reservations should be made through the Wayne County Medical Society.

### To Members of House of Delegates

A great deal of necessary business will be under serious consideration of the House of Delegates. It is desirable that all business be transacted in as complete a manner as possible. So many problems are before the Society that much study and thought will be required for appropriate action. It is recommended that each and every delegate familiarize himself with the facts connected with the various problems, before the opening day of the session.

The various committee members will be notified of appointments before the meeting and must be prepared to render complete reports at the earliest possible moment. All resolutions and reports are required by a previous ruling to be in triplicate. Members will kindly observe this regulation. One copy for the Secretary, one for the Stenotype operator and one for the chairman of the reference com-

mittee. Credentials of delegates should be properly executed and presented to the committee on credentials before 3:00 P. M. of September 23rd, the opening hour of the session.

Delegates who may have local problems, about which recommendations and support are desired, are earnestly requested to present them to the House of Delegates, that a united profession may contribute to the welfare of the members of the Society.

(Signed) HENRY A. LUCE,  
Speaker House of Delegates.

### Seventh Annual Training Course For Medical Reservists At The Mayo Clinic

The two weeks' period, October 6 to 20, 1935, has been selected for the Seventh Annual Training Course for Medical Department Reservists of the United States Army and Navy, at the Mayo Clinic, Rochester, Minnesota.

The program will follow the plan which has been so successful in past years. The morning hours will be devoted entirely to professional work in special clinics and study groups. Officers in attendance may select the course they wish to follow from the wide variety of presentations offered. The afternoons and evenings will be devoted to Medico-Military subjects.

The Staff and Faculty of the Mayo Clinic will present the professional training, while the Medico-Military Program will be under the direction of the Surgeon of the Seventh Corps Area (Army) and the Surgeon of the Ninth Naval District (Navy).

Enrollment is open to all Army and Navy Reservists of Medical Departments, in good standing. Applications should be submitted to the Surgeon, Seventh Corps Area, Omaha, Nebraska, or the Surgeon, Ninth Naval District, Great Lakes, Illinois. Enrollment is limited to two hundred.

The Surgeon Generals of the Army, the Navy and the Public Health Service have all signified their desire and intention of being present during at least a portion of the course.

### Inter-State Postgraduate Medical Association of North America

The International Assembly of the Inter-State Postgraduate Medical Association of North America will be held in the beautiful Masonic Temple, Detroit, Michigan, October 14, 15, 16, 17 and 18, 1935, with pre-assembly clinics on Saturday, October 12, and, post-assembly clinics Saturday, October 19, in the Detroit Hospitals.

The Association through its officers and members of the program committee extends a very cordial invitation to all physicians in good standing in their State and Provincial Medical Societies to attend the Assembly. An unusual clinical and didactic program including all branches of medicine and surgery and the specialties has been arranged by the program committee.

A most excellent opportunity for an intensive week of postgraduate medical instruction is offered by a very large group of acknowledged leaders in the profession.

With a great deal of pride and satisfaction, we call your attention to the list of distinguished teachers and clinicians who will take part on the program which appears on page xiv of the advertising section of this JOURNAL.

Registration fee of \$5.00 admits all members of the profession in good standing.

DR. CHARLES H. MAYO, *President*,  
Rochester, Minn.

DR. GEORGE CRILE, *Chairman*, Program Committee,  
Cleveland, Ohio.

DR. WILLIAM B. PECK, *Managing-Director*,  
Freeport, Ill.



# THE JOURNAL

## OF THE

### *Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOL. 34

OCTOBER, 1935

No. 10

#### President's Annual Address\*

#### MICHIGAN AND OUR PROFESSION—YESTERDAY AND TODAY

RICHARD R. SMITH, M.D., F.A.C.S.†  
GRAND RAPIDS, MICHIGAN

Three hundred years ago, had you and I flown over the old Northwest Territory, we would have found a goodly portion of it to the north—that which was to be the state of Michigan—more than half surrounded by great inland seas, bordered by magnificent dunes of shifting, white sand, the land itself dotted by more than five thousand smaller lakes, and marked by many streams, and almost entirely covered by trees. Had we been able to land and explore, we would have found that these trees were of great variety: in its southernmost part hardwoods, such as oak, hickory, walnut, ash, cherry, basswood and yellow poplar, and a little further north magnificent forests of white and Norway pines, and on the better soils within this region, maple, birch and beech. We would have been confronted with great swamps and in many places an almost impenetrable tangled mass of vegetation; surely, a grim challenge to the prospective settler. That these forests, among the most remarkable in the world, were to constitute for many years Michigan's chief source of wealth, and were to induce many thousands of men to seek homes in this wilderness, would scarcely have been imagined. Had we managed to journey to what was to be called the upper peninsula we would have found also great forests, the hardwoods and hemlock predominating, and still greater difficulties to be overcome because of the greater severity of the winters. We would not have visioned the great stores of mineral wealth that were to make Michigan for

a period the greatest copper producing state and today one of the greatest producers of iron. In the swamps of the southern peninsula we would have found spruce, cedar, tamarack, red maple, elm, ash, alder, red osier, dogwood and various viburnums, all to contribute to the wealth and beauty of the state, but making settlement more difficult. Above all, these swamps harbored the anopheles that later were to act as secondary hosts for the plasmodium of malaria that became so grave a problem to the settler for many years.

Austere as it was, the land was not without beauty. Bright color flashed beside the deep gloom of the forest. There could be seen the flowering wild plum, the white blossom of the thorn, and the pink of the crabapple. Along the streams grew wild roses and elderberry, and in the swamps and low places grew brilliant yellow cowslips, while on the lakes there floated white and yellow waterlilies. During the autumns, the open spaces flamed with flowering aster, and in the cool depth of the forest, one might have seen the shimmering white of the Indian pipe or Ghost flower.

\*Seventieth Annual Meeting, Sault Ste. Marie, September 25, 1935.

†Dr. Smith graduated, M.D., from the University of Michigan in 1892. He has since pursued post-graduate work in German centers and in Vienna. His specialty is general surgery and gynecology. He has contributed extensively to journals in his own specialty. Dr. Smith is a regent of the University of Michigan. For further professional information see the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY, vol. 30, page 467; vol. 32, page 562; and vol. 33, page 569.

Protected and supported by the forests, we would have found in great abundance beaver, fox, deer, wolf and bear, and probably the muskrat, weasel and mink. All of these, with the wolverine, marten and fisher were to play an important part in the life of the early explorer, trader and settler of the days of French occupation and were to be the chief source of wealth for more than one hundred and fifty years. Bird life was abundant, and the passenger pigeon, now as extinct as the dodo, was present at times in enormous numbers. Flocks which blackened the skies, and estimated to contain more than a billion birds, were at one time known; hunting and marketing them later on attained for a short time the status of a major industry.

To such a land three hundred years ago came hardy and adventurous Jean Nicolle, sent by Champlain, the founder of Quebec, to find a waterway to the China Sea. He voyaged with seven Indians in a birch bark canoe to St. Mary's River which he ascended to the source in Lake Superior where we now are. Returning down the river he coasted along the shore of Michilimackinac (Mackinac Island) and reached Green Bay, Wisconsin. So sure of meeting the Chinese was he that when he first met the Indians of Wisconsin he was clothed in a gown of Chinese silk magnificently embroidered with oriental designs of birds and flowers. He was the first white man to see Lake Michigan and to set foot on Michigan soil.

There followed Father Jogues, who with Father Raymbault penetrated as far as the Sault. They were the first missionaries to preach the gospel a thousand miles in the interior. The trail of these pathfinders to the west was beset with the greatest hardships, requiring a courage, a knowledge of the forest, and a physical strength and endurance but seldom seen in the men of today. They made their way through thicket and swamp and forest, over rocks and fallen trees, and in fragile canoes over stormy waters. One of the greatest hardships they were obliged to endure was the torture inflicted by the black fly, described feelingly by Father Sagard. He wrote: "Hunger, thirst, fatigue and fever, are but slight afflictions as compared with this pest." A band of unprotected missionaries in the Georgian Bay region was brutally murdered by the hostile Iroquois, together with four hundred of their Huron allies. The forti-

tude of Father Brebauf, who succumbed only after seventeen hours of indescribable torture, so impressed his savage captors that they ate his heart in order to infuse into their own veins some of his indomitable courage.

Then came others to us better known. There was Father Marquette who with Claude Dablon established the first permanent mission here at the Sault. He was a most earnest, energetic and kindly man, a student of the Indian language and of geology and botany, whose writings constitute the first detailed and scientific information about Michigan. In a small chapel built of logs here at the Sault he taught school to his little Indian pupils and baptized eighty children of the wilderness. A few years later he founded a mission at St. Ignace, and a little later accompanied Joliet to discover the Mississippi. The people of Michigan have an affection for Father Marquette that will never perish.

And there was Louis Joliet, native of Quebec, educated, an accomplished musician, who could not resist the mysterious lure of the wilderness. He became steeped in the lore of the forest as few men are. As a guide and explorer he was unsurpassed. Marquette, the priest, dreamed of the souls to be saved, while Joliet was concerned with food, protection and transportation. Here at the Sault he planted the arms of France and claimed this part of the northwest for his king.

And there was La Salle, prince of explorers, regarded by some as the greatest of them all in his vision of what the New France might mean to the mother country. It is doubtful if history records an explorer endowed with the imagination, surpassing courage, perseverance and energy of this remarkable man. La Salle launched upon Lake Erie the Griffon, a forty-five ton schooner with five guns, in which he reached the southern extremity of Lake Michigan. Here the gun boat was sent back laden with furs and was never heard of again—where in Lake Michigan does it lie? Although La Salle's ambitions extended far beyond Michigan, he played an important part in the history of our state. It was La Salle who created a fort at St. Joseph, over which, during the struggle for the conquest of this land, has flown the flags of four countries—France, Spain, England and the United States. La Salle eventually reached



the mouth of the Mississippi, where in an ill-fated effort at colonization, he was brutally murdered by his own men.

There also came Cadillac who founded Detroit in 1701, and who wrote the King of France that his aim was to make Detroit the Paris of New France. His greatest desire was for a title of nobility, and he repeatedly asked Louis XIV to make him Marquis of Detroit, a request never formally granted. His children were born in Detroit, and several of them are now buried there in the graveyard of St. Ann's Church.

The history of Michigan of the seventeenth century (the period of the Jesuit missionary), was the history of these northern trading posts and forts in which the Sault, Mackinac and St. Ignace were most prominent. Afterwards Detroit became the center of the fur trade, and together with the settlements of Southern Michigan slowly forged ahead in population and importance.

For one hundred and fifty years the French were engaged in a great struggle against implacable enemies and the changes and hardships of a wild and unsettled country. It was Michigan's era of romance and adventure. There was a singular comingling of material and spiritual motives. The lucrative fur trade drew many to Michigan—yet Champlain and his successors seem to have been inspired by a sincere desire to illuminate the dark wilderness of the savages with the bright light of the Church and civilization. "The children of the forest," said Champlain, "live in total darkness without religion or law."

The various tribes of Indians, some friendly, some hostile, played a conspicuous part in the history of those early days. In spite of the natural wealth of the country, the beauty of the forests, and rushing rivers, desolation stalked at regular, periodic intervals throughout the life of the Indian, who lived in the midst of these riches of nature. Without civilization, science, agriculture and medical knowledge, the beings who peopled this state in those far off days suffered, because of such lack, untold miseries. Here in this city, in the midst of the country in which centered the Great Indian mythology of the northern tribes, we remember one of the most poignant passages in literature, describing such visitations of calamity. Longfellow has im-

mortalized this northern country and the Michigan Indian in the epic of Hiawatha, describing the daily life, the pleasures and the heroic achievements of Indian ideals, but in addition, he described the weariness and sorrow in the death of the bride of Hiawatha, telling how famine and fever came to the wigwam, how Hiawatha roved the forests and the mountains to find a vestige of food and when far away, amid the forests

"Miles away among the mountains  
Heard that sudden cry of anguish  
Heard the voice of Minnehaha  
Calling to him in the darkness."

How he rushed home empty handed and heavy hearted:

"Saw his lovely Minnehaha  
Lying dead and cold before him  
Then he sat down still and speechless  
On the bed of Minnehaha  
At the feet of Laughing Water  
At the willing feet that never  
More would lightly run to meet him  
Never more would lightly follow."

The medical man, as such, had but little place in these early times. The Jesuit missionaries administered to the physical as well as the spiritual needs of white and red men alike. Champlain may have been accompanied by a surgeon, and one Liotot may have accompanied La Salle on his first expedition, and it is altogether probable that a Jean Michel was perhaps the first medical man to see Michigan, but by and large we may say that the medical man had but little or no part in the earliest history of the state.

There came the French and Indian War ending French regime in America. The French, adventurous in spirit, were not persistent colonizers—they loved the romance, adventure and the mysteries of a great virgin territory, but were less enthusiastic about the clearing of land, the building of roads, the toil of the plow, the things necessary to support a great population and to civilize it. Detroit, though founded a century before, when destroyed in 1805 by devastating fire, had but 600 inhabitants and an area of about one square mile. Following the French and Indian War the Revolution divided the northern portion of the continent between Great Britain and the new republic. Michigan, which had been claimed by France, Spain and England, became a part of the United States of America by the treaty of peace signed in Paris

in 1783. Even after the making of this treaty, the territory was claimed by three of the original states in the Union—Virginia, Connecticut and Massachusetts. But eventually all the states surrendered their claims to the nation. In April, 1784, Thomas Jefferson's Ordinance became the first form of government of the Northwest Territory. Thus the first charter or constitution of the Territory of Michigan was written by the same hand that helped to frame the Declaration of Independence. Under the agricultural and industrial spirit of the American, real settlement began in the beginning years of the nineteenth century. There was the interruption of the War of 1812, but the opening of land sales in 1818, when land could be bought for a dollar and a quarter an acre, and the opening of the Erie Canal a few years later, attracted settlers who were to bring the needed stimulus to agriculture, trade, commerce and manufacture. The population of Michigan increased from seven thousand in 1820 to 174,000 in 1837, when the state entered the Union. Detroit profited much by its position at the very door of the territory. The earliest efforts at settlement were seen in the counties along our southeastern water front, Monroe, Wayne, Macomb and St. Clair, and in this early part of the nineteenth century roads were built radiating from Detroit to St. Joseph, Niles, Kalamazoo, Grand Rapids and Saginaw. Stages were running on all these routes, when Michigan entered the Union as a state, and to Sandusky, Chicago, Flint and Fort Gratiot (Port Huron) and to St. Joseph by the territorial road. And so Michigan grew in population. When admitted to the Union in 1837 its population, as stated, was 174,000. In thirteen years the number was doubled, and in another ten years, redoubled. In 1900 its population was nearly two and one-half millions. Then came even more rapid growth. In 1920 there were over three and a half millions, and now more than five millions.

The difficulties presented to the early settlers were hardly less than those presented to the pathfinder, the woodman, the missionary, and the fur trader of the days of the French. Other states of the Middle West were fertile prairies, easy of cultivation, but Michigan was a rugged prize that required rugged conquerors. Only through the persistent and arduous efforts of cour-

ageous pioneers could the land be made fit for cultivation and civilization. And with these rugged pioneers came the medical man of like woof and warp, with a willingness to accept the hardships, and a courage and determination to fulfill his part in the life of the young settlements. Roads and trails were almost always difficult and frequently impassable. Our pioneer physicians were subject to great fatigue and illy protected from the weather. A single call sometimes took more than a day and many times they had to contend with the dangers of the forest and hostile Indians. Their drugs were crude as well as their instruments. Still they carried on. It was the horseback days of practice in Michigan. Quacks and charlatans were common and as early as 1819 a few men of high ideals and ambitions for medicine formed the Michigan Territorial Medical Society. To these men was granted by the government absolute control over those who were to practice medicine and they undertook to examine and grant diplomas of recognition of fitness for practice. It was in this era that Beaumont performed his remarkable experiments upon Alexis St. Martin at Mackinac, an example of what one gifted with imagination and a daring, inquiring mind can accomplish under the most difficult and primitive conditions. It offers an inspiration to us who have at our command all the numerous facilities contributed by modern science.

Michigan gradually extended its area of settlement and its population grew. Its forests, which at the beginning were a barrier to settlement and agriculture, became its greatest source of wealth. Lumbering in the pine regions began about 1830. The crude and slow water driven saw was replaced by the steam driven circular and later band saw. In 1847 the shipment of the first cargo of pine lumber to Albany marked exportation and the beginning of lumbering on an ever increasing scale. Michigan became the greatest lumber producing state in the Union. Attracted by employment, tens of thousands moved northward to the timber. Cities such as Grand Rapids, Muskegon, Saginaw and many smaller ones owe their growth and importance largely to this industry. Everywhere was heard the whine of the saw and the sweet odor of fresh sawdust was in the air. And then quite abruptly toward the



close of the last century the supply, which had seemed inexhaustible, almost disappeared. No longer was heard the cry of "timber" preceding the fall of the forest monarch, no longer were the cant hook and pike household words—our streams, filled with the logs of the spring drive, became the recreational delight of trout fishermen, and the colorful lumber jack turned for his living to the less colorful farm and to industry.

Conditions of medical practice gradually improved during the era of lumbering. Roads improved, there was better protection from the weather, hospitals and nurses became more numerous, and with advanced education the doctor became of far more service to the people of the state. It was the age of great discoveries in medicine—of anesthesia, of bacteria as a cause of disease, and of aseptic surgery; the close of this era saw these things coming more and more into general recognition and use. The practice of medicine was being slowly transformed. It was the horse and buggy days of medicine. There was little specialization. The doctor's practice was largely with families that employed him year after year, and he usually sent his bill annually. The complex problems of medicine today were unknown to him.

The people turned at the beginning of the century with increased vigor to manufacturing. The timber was gone, but a people that had conquered the wilderness was not to be thwarted. We have become a great manufacturing state producing an infinite variety of articles from wooden shoes to automobiles, and perhaps more especially, articles made from metal. Quick to sense the enormous advantage of the automobile to the world, and perhaps, too, because of the fact that we were already manufacturing gasoline engines in large quantities, we began to manufacture them and we now produce 80 per cent of the automobiles of the nation, and it has brought us greatly increased wealth and population.

Though we are not pre-eminently an agricultural state, we produce the country's greatest crops of peppermint and cherries, garden seeds, celery, tulips, potatoes and sugar beets.

Our heritage from geologic ages still produces a notable amount of copper. At one time ranking first in the United States in copper production, we are now surpassed

by Montana, Arizona and Utah. We rank second to Minnesota in iron production, the whole Lake Superior iron district producing 85 per cent of the nation's supply. We produce salt in large quantities, and now also oil. We have become a leading recreational state with tens of thousands of visitors a year. Michigan with its long shore line of the Great Lakes and its sand dunes, its woods, its streams and small lakes, its invigorating summer climate, its beauty, offers rare opportunities to the lover of the outdoors, the athlete and the sportsman.

The settlers that came to Michigan in large numbers during the early third of the nineteenth century came largely from New England, New York State and Pennsylvania. They brought with them the habits and customs of those states. They were a hardworking, intelligent people and believed in the substantial things that gave security, opportunity and liberty to the individual and contributed toward a higher state of civilization. Among other things they believed in education as a means to these ends. They early established schools. Coming as they did from the more mature communities of the east they believed in higher education. After a beginning in Detroit in 1817, the University of Michigan was established at Ann Arbor as one of the first acts of the legislature of the new state in 1837. Simple was that beginning, but the idea was planted and it grew. The University of Michigan has become one of the greatest institutions of higher learning in the world and has had a most marked influence on the development of the state and the stability and welfare of its people. Fortunate are we that our forefathers were men of such insight and vision, and that the generations that have followed have supported such ideals so well. The University was not merely the idea or dream of one or a few men of wealth and education. It was the outcome of the ideas and aspirations of the people as a whole, a true state institution.

The medical school was opened in 1850 at a time when there were few in the country. To this state goes the credit of being the first state to recognize the importance of professional education in medicine. Its establishment was due to the energy and vision of a few men of science—Dr. Asa Grey, Dr. Abram Sager, Dr. Douglas

Houghton, Dr. Silas H. Douglass, Dr. Zina Pitcher, and Dr. Moses Gunn. They have been followed by a long list of distinguished scientists and teachers, of research workers and clinicians. Their program has been one of imparting to young men (and women) a thorough and scientific knowledge of medicine. They have clung to the idea that the teaching of fundamentals was most essential—something upon which the student and future physician could erect a substantial superstructure. The Detroit College of Medicine (now Wayne University) is maintaining this same idea and has contributed greatly to medical education in this state. Our proprietary schools, unworthy of the profession and the people of Michigan, no longer exist. In the beginning at Ann Arbor, two full courses of lectures of six months each, and a year with a so-called preceptor, a physician in practice, were all the requirements for a diploma. The course was gradually lengthened to four years in 1890, where it has remained. The requirements for graduation today are well known to you. Perhaps the most striking changes in undergraduate education are the pre-medical requirements. They include Chemistry, Physics, Botany, Psychology, Zoology, German and French, English literature, and other cultural subjects. Surely the physician of the future bids fair to be a man of broad culture and to have a deeper and better understanding of medical problems. Since the war we have seen the beginning of another great movement, a great enlargement of opportunities for post graduate work. You know what is being done. It will slowly elevate standards of practice, improve the service which we are to render the people of the state, and increase the enjoyment of our work.

A large part of the practice of the physicians of the earlier days consisted in caring for the contagious and infectious diseases. The most serious, from an economic and sociological standpoint, was malaria. A large portion of the population was affected at one time or another and the disease had to be considered in the diagnosis of almost every patient. In its effects upon the people it was almost as serious as hookworm. There were serious epidemics of cholera. In 1832 one started in Detroit and spread to many towns of the southern portion of the state. In that year, out of a population of twenty-five hundred in De-

troit, more than one thousand died. Roads leading into the surrounding country were blockaded, bridges torn up and guards placed in the highways to intercept persons coming from Detroit and turn them back. In that year Father Gabriel Richard, publisher of the first newspaper in Michigan, and delegate to Congress from the Territory, as a result of his ministrations to the sick, finally died of the cholera. There was a return in 1834 and in that year many of the well known leading citizens, including the Governor, George B. Porter, died of the disease. In another epidemic, that of 1849, twelve hundred died in Detroit of the disease. Cholera infantum and the summer diarrhea of infants kept the practitioner very busy during the summer months. Smallpox was a common serious disease. Tuberculosis was a much more common disease than today and there were the epidemics of typhoid fever and the so-called children's diseases. All in all the physician's time and efforts were devoted largely to the care of such patients.

The manufacturing era of Michigan has been accompanied by the most rapid advance in medicine. Specialization has been a natural outcome of it and in no small way responsible for this advance. It has markedly improved the service rendered the people though it has brought serious problems to the general practitioner. With greater wealth, and to better meet the demands for a medical care commensurate with greater medical knowledge, hospitals have increased materially in number and improved enormously in service. Laboratories, nurses and an army of lay workers have made the practice of medicine indeed a life of greater enjoyment and satisfaction. One only needs to look back to, say the nineties, to realize all this. It is the automobile age in medicine and considering the past, an age of medical luxury. With the subsidence of the contagious diseases, physicians have turned their attention more strictly to the correction of the innumerable other ailments of mankind. Life has been prolonged and the health of the people greatly improved. Medical organization has made enormous advances. Through its very frequent well planned meetings it has been a great help in our education, has brought us more closely together, and has given us a better conception of our relationship to the public and our responsibilities to it in



health education and in innumerable other ways. People have become health minded as never before. The average, intelligent individual may reasonably expect, barring accidents, to maintain good health and vigor through the years and well into old age. But in this he definitely needs the assistance of the medical profession. We are entering an age of prevention in medicine—not prevention alone of the contagious and infectious diseases, but of all the diseases, physical and mental, which still take so heavy a toll in sickness and in life. I believe that a gradual re-establishment of family practice will come in this way. There is a growing and insistent demand for this kind of service, a demand to be directed, self and family, in all matters of health. It involves hygiene and personal habits, the correction of faulty tendencies, physical and mental, and the eradication of disease in its early stages. Are we lagging in all this?

Michigan conquered the wilderness. From an austere and forbidding land it carved its cities, towns, villages and farms. With never failing courage and ingenuity it developed its natural resources. With our help it has largely overcome the contagious and

infectious diseases, lengthened life and improved health. It has survived war and depression, and the destructive forces of ignorance and greed. Through education, science, medicine, the church and many other uplifting forces it has enormously improved the standards of living and added richness and enjoyment to life. It took men of rugged character to do all this, but such were our pioneers. We have entered a new complex era of commerce and industry, education and science—a new era, if you will, of civilization. Our pre-eminence now depends not upon our natural wealth and resources but upon the character, stability, intelligence and energy of our people. Our problems have changed but are no less difficult. With the great advantages of today we may look forward with confidence as did our forefathers at a time when the morning was before them and the spirit of Michigan was, then as now, courageous and unconquerable.

NOTE: The historical material in this address has been obtained from many sources—from correspondence and interviews with friends, and from various publications. Some of the publications should have specific acknowledgement. They are the *Medical History of Michigan* published by this society, and articles by George N. Fuller and Antoine J. Jobin in this year's spring and summer number of the *Michigan History Magazine*.

## ACUTE HEPATIC INSUFFICIENCY\*

### Clinical Occurrence, Liver Function Tests and Therapy

WILLIAM A. THOMAS, M.D.†  
CHICAGO, ILLINOIS

The commoner functions and activities of the liver are well known, both from a clinical and a physiological standpoint. Chief among these are bile formation; the glycogenic function, whereby blood sugars are converted and stored, to be released on demand of appropriate stimuli; and certain other synthesizing and detoxifying activities. Furthermore, failure of liver function over longer periods of time, notably in cirrhosis, presents definite constitutional and laboratory results that are commonly recognized. However, the picture of acute hepatic failure, while frequently seen and usually defined in terms other than such, has recently come to be recognized as a pre-

dictable, definite, and frequently preventable event.

Acute hepatic insufficiency occurs as the result of either toxic or destructive processes which involve liver rather than renal or other tissue, central nervous system for example, and is usually precipitated by some additional factor, frequently incidental in character. The picture is that of shock, and may well be called liver shock,

\*From Rush Medical College and Presbyterian Hospital, Chicago. Material for this paper was drawn in part from studies made under the Raymond Fund. Read before the Medical Section, 114th Annual Meeting of the Michigan State Medical Society, Battle Creek, September 13 and 14, 1934.

†Dr. Thomas obtained his B.A. degree from the University of Chicago, 1912, and his M.D. from Rush Medical School, 1916. His undergraduate work was done mostly in Europe; Geneva and Munich. He served his internship in the Presbyterian Hospital with Dr. Billings in 1917. He is at present Associate Professor of Medicine at Rush Medical School. He is also on the staff of the Presbyterian Hospital. His practice and teaching are limited to Internal Medicine, with emphasis on nephritis and allied disorders.

differing only in a few important respects from post-surgical and other shock occurring in the absence of liver damage. In particular it resembles histamine shock, especially in its mechanism, and it may well be that this latter, and also shock resulting from extensive tissue destruction, are both due to release into the circulation of histamine-like substances derived from rapid tissue breakdown—liver or otherwise.

The picture is that of falling blood-pressure, rapid thready pulse, dyspnea, and collapse, progressing when severe into anuria, convulsions, and coma, with the patient cold, pulseless, and ashen, sometimes cyanotic. This may be fulminating, the entire process occurring within a few minutes, or may be either gradual and slow, occupying several days to a fatal termination if untreated, or of minor degrees of severity, these latter commonly unrecognized as such, with spontaneous recovery. As recently as three years ago one of my patients operated upon for long-standing gall-bladder disease by an eminent surgeon of our staff complained on the third day of a feeling of weakness and fatigue. No concern was felt at first, but gradually, over the next two days, a state of profound exhaustion, air hunger, loss of appetite, and collapse supervened. The pulse became thready and disappeared at the wrist, extremities became cyanotic, blood-pressure fell below sixty systolic, followed by six hours of deepening coma, two convulsions, and death. The point I wish to make is that no one was able to tell me why this man died. There was no hemorrhage, no pathological condition was revealed other than that commonly found in long standing gall-bladder disease with obstruction. Today it is quite evident that either that patient should not have been operated upon at that time or that appropriate measures would have prevented the termination.

The mechanism of this collapse, a source of intensive study with us and elsewhere, reveals that outstandingly there is a loss of blood water to the tissues corresponding again, in this respect, to histamine shock. The muscles and liver develop a tissue thirst or water valence so great that the free water of the blood is withdrawn to greater or less degree from the circulation, accounting largely for the vasomotor symptoms of falling blood-pressure and rapid pulse, as well as for anuria, which

is merely a reflection of decreased or absent free water in the blood. The blood is thick and dark, and analyses at this time reveal simply concentration of all elements. This is, of course, nothing less than edema, and is participated in by many or all tissues, especially, other than muscle and liver as noted above, the brain. Disturbances of mineral metabolism, especially loss of tissue calcium and replacement by sodium, occur. Furthermore there is a failure of tissue oxidation due to the disturbed state of colloidal aggregation going hand in hand with this edema and electrolyte imbalance, and particularly is there a failure of the liver to release glycogen, with resultant lowering of blood sugar.

Granting for the moment pre-existing liver damage, attention is directed to the immediate and precipitating factors in the cause of the condition. Anesthesia alone may be the source, or in any event a major contributing factor. Fortunately the use of chloroform, notoriously damaging to liver, is rare. Ether, however, is extensively used, and, while it does not cause acute liver damage, has a marked action on this tissue which cannot be ignored. It is unfortunate that ethylene and other less toxic anesthetics do not give the relaxation necessary in extensive abdominal surgery, especially of the gall bladder.

Second to anesthesia comes the trauma of the operation itself and this is especially true when the liver is manipulated. It is self evident that extensive liver damage occurs most frequently in company with disease of the bile ducts and gall bladder and that it is in those cases, especially of intermittent, recurrent, or long-standing obstruction, that the hazard is greatest. Recently my intern, who was busily engaged in these problems with me, reported that two cases of shock had occurred simultaneously the night before in patients on a surgical service following gall bladder operations, and that the staff had attributed the reaction to contamination of glucose solutions being used subcutaneously. On investigation, both cases proved to be typical reactions of the type under discussion and both improved following emergency blood transfusions, as the condition had also been considered as possible hemorrhage.

The reaction is seen commonly and in its most spectacular form as an eclamptic manifestation, occurring frequently from



six to eighteen hours after delivery. This phase I prefer not to discuss further, since it represents unpublished work still in process with several colleagues. Nevertheless, the same principles of diagnosis, preliminary preparation, and treatment of the acute state hold true. Other toxic reactions, particularly those following arsphenamine and serum administration and the true anaphylactic type, represent modifications which are not due to liver damage, but probably to the presence of toxic aggregates of protein degradation foreign to the circulation; and at this point it is well to warn against the sudden release of a tourniquet, since, in dogs suitably prepared, release of a constrictor placed tightly about a leg for only a few minutes precipitates an immediate and extremely severe collapse and convulsion. Strangely enough, cirrhosis does not in most cases result in any great degree of vulnerability, and it appears that the liver functions involved in this type of reaction are not impaired to the degree one might expect.

The selection of a test of liver function is no simple matter; in fact, is quite as complex as in renal tests, and a comparison of the problems is entirely legitimate. For example, does the phenolsulphonephthalein test represent the existing kidney function? Or does the urea clearance test, or the figures derived from the blood chemistry? Are there many renal functions to consider, such as ability to excrete water as compared to minerals or metabolites, and, if so, which of the tests most truly represent renal capacity? Similarly in the liver, we are faced with a number of functions, some of which concern us in this particular study; others not, and the problem is to select a practical test that appears to truly represent the interests at hand. Briefly, the galactose tolerance test has been tried extensively and, while still a routine procedure, is largely ignored, since its value is positive only, not negative; that is, in only extreme cases does it show a positive result, and remains within normal limits in numerous cases that reveal distinct loss of function by other tests. The bromsulphalen test proves quite satisfactory in many hands, but in our experience was less accurate than our final choice. As accurate as any is the bilirubin clearance test, but as the prevailing price is twenty-five dollars a gram, and the dosage a milligram per kilogram of weight,

its extensive and repeated use in a large series was financially impossible. For a time the iso-iodoikon seemed satisfactory, but careful checking proved that it, as did galactose, gave readings within normal limits in cases that were distinctly beyond those limits.

Finally, and fortunately, I believe, we adopted the Rose-Bengal test as our standard, and in a long and complicated series of subjects there has been no instance in which the results could be criticized. Second only to its accurate representation of the factors involved, it is simple and inexpensive. It was originally advocated by Althausen<sup>1</sup> and more recently by Beskind, Epstein, and Kerr.<sup>2</sup>

Ten c.c. of a 1 per cent solution are injected intravenously, regardless of weight. Two minutes after injection, the maximum distribution and concentration occur in the blood and at this time 3 c.c. are withdrawn onto oxalate as the standard. At eight and sixteen minute intervals two similar amounts are drawn (that is, 10 and 18 minutes after the original injection), and the amount of dye remaining in the blood is read and compared with the two minute standard. At the end of 8 minutes, not more than 55 per cent of the two minute standard should remain in the blood, and after sixteen minutes not more than 35 per cent. Results may be read by spectro-scope or colorimeter, and, with the contribution made by Dr. Freeland in our laboratory of making dilutions with serum rather than water, controls by the two methods read by different individuals usually fall within 2 per cent and frequently within one-half of 1 per cent of each other.

Clinically the Rose-Bengal test has represented accurately the functional capacity of the liver in which we have been interested. A group such as ours, Rush Medical College and Presbyterian Hospital, is notoriously and correctly conservative, so that, with all the data at hand, gall bladder cases are sent in after supper and operated upon before breakfast, but there is an increasing interest in, and attention to, these facts. In such cases, when feasible, function tests are performed and, when the results indicate impaired function, pre-operative methods are employed, daily tests being done, until a satisfactory condition is obtained. In this preparation, glucose is given in large amounts and by numerous routes. A high

carbohydrate diet, including candy, sugar, sweets, and starches of all types, is given by mouth; 6 or 10 per cent glucose in distilled water (not salt solution) may be given under the skin. Calcium is administered in massive doses, as the lactate or gluconate by mouth, and the gluconate intravenously or subcutaneously. Alkali, in the form of various proprietary effervescent powders or as alkaline waters, is administered in large quantities, care being taken that the calcium and potassium exceed sodium.

Ordinarily a few days' treatment will so improve the liver function that operation, with its mechanical and metabolic hazards, including post-operative acidosis and hypoglycemia, is no longer to be feared. The results thus far obtained have fully justified confidence in the tests and procedure so that patients so prepared have surprisingly rapid and uneventful recoveries.

Nevertheless, the occurrence of acute hepatic insufficiency in cases not so prepared, and especially in toxemias of pregnancy, requires prompt and specific treatment. In the first place, this collapse is definitely not cardiac and the digitalis preparations so frequently used, either intravenously or otherwise, have no definite value. The rapid, feeble pulse is merely an indication of decreased blood volume with decreased peripheral resistance and a heart striving and fluttering against an unaccustomed lack of this resistance. The primary need is of fluid that will remain within the vascular bed, and this is not supplied by salt solution or glucose, even intravenously, for, with the prevailing tissue demand for water, fluid in these forms leaves the circulation practically as fast as it can be administered. Blood serum is very satisfactory, and though transfusion of whole blood, by either direct or citrated methods, accomplishes the desired result, plasmaphoresis is theoretically superior due to the smaller volume required and decreased hazard of agglutination of donor's cells. So far we have not used plasma or serum alone due to the delay in preparation, but trust it may be tried shortly. Second only to blood is the acacia advocated by Hartmann and at present I am inclined to rely more on this than on blood, due to its availability and extremely satisfactory results. On numerous occasions, cases seemingly in extremis have responded within twenty minutes of the acacia administration to the degree that all apprehension

regarding the outcome had vanished and only rarely has more than 500 or 600 c.c. been necessary. In our experience, the size of the needle required, combined with the collapsed state of veins, precludes the usual intravenous procedure and requires cutting down to the vein and the insertion of a cannula of moderate size. Reactions are rare and no unfavorable after-effects have been noted.

Abandoning the use of digitalis, three stimulants are used—adrenalin, caffeine, and strychnin, all of great value as vasomotor stimulants. In critical conditions adrenalin in 10 minim doses may be administered every ten minutes and the others every thirty or forty minutes. Oxygen by nasal catheter gives tremendous relief from the cyanosis, dyspnea, and restlessness, and in practice is continued for twelve or eighteen hours when conditions so warrant. Heat to the extremities appears to be of actual value and, as in other types of shock, is routine.

Glucose at these times is of paramount value, given subcutaneously, with multiple needles, in 10 per cent aqueous solution. Given intravenously, it does not remain in the blood stream and for some reason seems less available for utilization than when absorbed from the subcutaneous spaces. Insulin in dosage sufficient to cover half the glucose is given in small divided doses, regulated by the rapidity of absorption of the glucose solution. Five units for every 200 c.c. of 10 per cent glucose appears to produce optimum utilization. Not only in its preventive action, but also in the acute stage is calcium of great importance, protecting liver cells against further damage and reversing the path of water flow, thus correcting the tendency for further water loss from the blood. It may be given intravenously as the gluconate, 1 gram every ten minutes for five or six doses, intramuscularly or subcutaneously when veins cannot be utilized, or added to the glucose solution, 3 or 4 grams per 1,000 c.c., altogether to a total of eight grams within the first two hours and 20 grams within twenty-four hours. The most evident and important action of glucose, apart from preventing cellular damage, is to promote resumption of renal activity, thus preventing retention of metabolic products by aiding the return of water from potentially edematous tissues to the circulation.



### Conclusions

1. Acute hepatic insufficiency, one type of shock, occurs in the presence of damaged liver and follows the disturbances of operation, anesthesia, liver manipulation, pregnancy, et cetera.

2. The degree of liver damage may be satisfactorily determined by various tests, of which Rose-Bengal has proved entirely satisfactory.

3. The mechanism and predisposing factors in the condition are discussed.

4. Therapy depending on the above causes rather than cardiac insufficiency is effective in preventing the occurrence of the syndrome in large measure, in improving liver function to the point of safety for operation, and in combating the acute condition when it occurs.

### References

1. Althausen, T. L., Beskind, G. R., and Kerr, W. J.: *Jour. Lab. and Clin. Med.*, 18:954, 1933.
2. Beskind, G. R., Epstein, Norman, and Kerr, W. J.: *Annals Int. Med.*, 7:966, (Feb.) 1934.

## ABDOMINAL PREGNANCIES OCCURRING IN DETROIT DURING 1933\*

CLEARY N. SWANSON, M.D.†  
DETROIT, MICHIGAN

The rarity of abdominal pregnancy is too well recognized to require any special emphasis although there have been a number of cases reported in the literature, particularly during the last few years. There has been considerable controversy over the question of whether the various cases were of the primary or secondary types. Many writers, such as Bland Button, deny the existence of a primary abdominal pregnancy. The more one studies the literature, the more confused one becomes; so I have not attempted to state definitely in the cases that I am reporting whether they are primary or secondary.

The first case of so-called primary abdominal pregnancy was reported by Balabin in 1896. His case was that of a pregnancy situated in the cul-de-sac. The second was reported by Welthauer in 1903 in which placental tissue was found rolled up in a piece of omentum.

Williams in his textbook states that in all probability not more than 1 per cent of all extra-uterine pregnancies reach full term. In tracing the fate of embryos, it is found that most of those that are extruded into the peritoneal cavity are absorbed. Should the fetus attain a certain size before death, it cannot be absorbed and will undergo either suppuration, mummification or adipocere formation.

Going on to term, false labor sets in, simulating normal labor, and may last from four hours to a few days. Death of the

fetus naturally follows. After death of the fetus occurs, the placental circulation gradually becomes abolished, the amniotic fluid is absorbed and the fetal sac retracts. After the initial shrinkage, the tumor may remain stationary for years. The following case reported by Halibin illustrates this very well: A negress, 55, entered the surgical ward complaining of weakness, loss of weight, and passage of bones by rectum. Her third pregnancy was supposed to have delivered as a full term pregnancy thirty years before. At the time she expected delivery she visited several hospitals and was told that she was not pregnant. She returned home, where, over a period of about a year, her abdomen slowly decreased in size until it was normal again. Rectal examination showed a hard mass posterior to the uterus. No evidence of any bones was found. Patient was discharged as a malingerer. On her next entrance to the hospital, a bone was found in the rectum. With the aid of a proctoscope seven more bones were removed. These were skull bones and one pelvic bone. The patient had carried the products of conception thirty years and that

\*Presented before the section on Obstetrics and Gynecology, Michigan State Medical Society, Battle Creek, September, 1934.

†Dr. C. N. Swanson graduated from Harvard Medical School in 1923. He was Surgical House Officer, Boston City Hospital, Boston, Mass. He was later instructor in Gynecology and Obstetrics, University of Iowa Medical School. He is on the staffs of Harper and Herman Kiefer Hospitals and Obstetrical Department, Wayne University School of Medicine.

she suffered as little inconvenience as she did is little short of marvelous.

There are many cases in the literature showing that operative interference should have been instituted long before it was. I think the following case was most interesting: This patient had a history of vomiting and vague abdominal pains during the pregnancy. Date of confinement was February, 1925. On March 1 she began to have labor pains which lasted for twenty-four hours. On April 1, patient flowed for three days. On April 21 her physician packed the cervix twice and inserted a balloon bag. Six days after bag was inserted, her left leg became markedly swollen, evidently developing a phlebitis. Latter part of April, patient felt fetal movements and physician heard heart tones. In August, 1925, the physician, being very confused in his opinion, had an x-ray taken which showed the presence of a full term fetus. The patient was advised to have a cesarean section, but, being a Scientist, refused to have operative interference. In September she began menstruating normally every twenty-eight days. By this time her health was much improved. She did not enter a hospital for operation until January, 1926. Cesarean section was performed twenty months after she missed her last period. A well developed, well nourished fetus was found in a large sac filling the abdomen. The operator thought that this was a primary abdominal pregnancy. Fetus and placenta were undergoing calcification. Uterus and tubes were normal.

Before giving you the records, I should like to present the following statistics: There were ten cases. Six were at term, four were premature, the earliest being four and one-half months. Four mothers died, giving a maternal mortality of 40 per cent. In analyzing these deaths, all were preventable if the diagnosis had been made early and before various manipulations had been started. From the standpoint of the operation, I think only one could have been saved by leaving the placenta *in situ*. Two cases were brought into the hospital moribund. There were two live babies which were in excellent condition when discharged from the hospital. One premature lived for thirty-six hours. There were eight fetal deaths, which gave a fetal mortality of 80 per cent. Although there are a few cases reported in the literature in which live babies were obtained in abdominal pregnan-

cies, it is most unusual that in this series there were two full term live babies. There were 23,248 births in Detroit last year with ten abdominal pregnancies or one in about 2,300 births. There were 1,193 infant deaths with eight from abdominal pregnancies. The number of maternal deaths was 144, with four from abdominal pregnancy.

Harnes found only ten cases of abdominal pregnancy in going through the records of the New York Lying-In Hospital, where there had been 156,000 deliveries. Their maternal mortality was the same as this series. The resident at Kiefer Hospital went over their records and found they had four cases last year and one the year before as the only cases on record out of 22,000 births.

I will present a brief summary of the case records of abdominal pregnancy that occurred in Detroit during the period of one year.

*Case 1.*—Mrs. B. was admitted to a local hospital in critical condition on May 12, 1933. History: She was married fourteen years, during which time there had been one spontaneous abortion. There were no full term pregnancies. She had attended a local hospital clinic where they told her she had a fibroid with pregnancy or a malignancy involving the uterus. Her last menstrual period was October 23, 1932. During January she passed a large clot and bled irregularly during the entire month. No hemorrhage or spotting occurred during March. Four days before admission, she developed severe abdominal pain with vomiting, and was admitted to the Receiving Hospital, where she stayed one and one-half days. As she felt better she was sent home as she was thought to have a normal pregnancy. She had not been home long when she developed severe pains over the entire abdomen. These were not localized and continued until operation. On admission she presented the picture of severe hemorrhage, pallor, rapid pulse, and shallow respirations. The abdomen was evenly distended with board-like rigidity. Marked dullness was present in both flanks. A mass could be made out on the right side which extended to the umbilicus. On rectal examination a head was felt down in the pelvis. Pulse was 150 with only fair quality. Diagnosis of abdominal pregnancy or a ruptured uterus was made. Operation: A mid-line incision was made and right-sided intraligamentous pregnancy was found. A living fetus weighing 2 pounds 7 ounces was removed. The placenta was peeled off the broad ligament without much difficulty. Bleeding was controlled with hot packs. Supra-vaginal hysterectomy was done, leaving the left tube and ovary *in situ*. The child lived about thirty-six hours. The patient had a rather stormy convalescence and complained of considerable abdominal pain. For the first few days she was nauseated and vomited. When she was examined for discharge there were no pelvic masses made out although there was still some tenderness on the right side.

*Case 2.*—This patient was admitted to the hospital on April 19, 1933. Her abdomen was enlarged to the size of a full term pregnancy. She complained of nausea and vomiting throughout the entire pregnancy and had been confined to bed most of the



time. Her last menstrual period was in June, 1932, which made her about at term when she entered the hospital. She was sent in for a cesarean section by her local doctor who said the patient could not stand a normal labor. On examination there was a mass on the left side which contracted when massaged. This was believed to be the uterus. On vaginal examination only the posterior lip of the cervix could be seen. The anterior lip could not be seen nor felt because it pointed directly upward and was behind the symphysis. On the left side could be felt this mass which was previously described and thought to be the uterus. A large mass containing a fetus was felt on the right side. The head was felt in the cul-de-sac. The fetal heart could be heard upon admission but could not be heard during the night before operation. Diagnosis of abdominal pregnancy was made. The patient was operated on the next morning, revealing a right-sided full term intraligamentous pregnancy. Subtotal hysterectomy and bilateral salpingo-oophorectomy with an appendectomy were performed. The child was stillborn at term. The placenta was removed without much difficulty. The patient had a stormy convalescence and developed intestinal obstruction which required a secondary operation for relief of same. She complained of severe abdominal pains until the time of discharge.

*Case 3.*—A white woman was admitted to a local hospital on March 23, 1933. The patient had been admitted two weeks before this admission and was sent home not in labor with diagnosis of normal pregnancy. This pregnancy was peculiar in that, since conception, she had had ill health, loss of weight and weakness. There had been no such symptoms during her previous pregnancies. She was seen at a local clinic during the time she was carrying the baby and a diagnosis of a normal pregnancy was made. Her last menstrual period was in June, nine months prior to admission. She bled for three weeks in July. She had been troubled with a profuse vaginal discharge and many attacks of pain, nausea and vomiting. There had been a small amount of bleeding a few days before she came to the hospital. Examination revealed a tumor mass in the midline with pain and tenderness in the region of the appendages. No fetal heart sounds could be heard. There was some gaseous distention of the abdomen. Vaginal examination showed that the cervix was bluish, pointed upward and admitted one finger. It was connected with the mass described above. A sound was passed to make sure this was the uterus. Diagnosis of abdominal pregnancy. On March 29, operation was performed under spinal anesthesia. A midline incision was made. A right intraligamentous full term pregnancy was found. Fetus had been dead for some hours as was shown by beginning maceration. Supravaginal hysterectomy and bilateral salpingo-oophorectomy were performed. Placenta was removed. Remnants of the amniotic sac were removed as well as possible. Convalescence was quite uneventful except for considerable abdominal pain and discomfort.

*Case 4.*—On September 30 when admitted to the hospital this patient was not in labor. She had been under the care of a physician who told her the baby was in a transverse position for which he attempted external version without success. When this failed he sent her into the hospital for a cesarean section. She was twenty years of age; Para I. The last menstrual period was December 4, 1932, making her due date September 12, 1933. Some time in January she began to notice sharp pains in the right side which her physician attributed to adhesions from a previous appendectomy. The

pains continued to grow more severe during several months, with fainting spells, nausea, diarrhea and occasional vaginal spotting. At one time a diagnosis of tubal pregnancy was made but this diagnosis was changed to normal pregnancy. The attacks began to grow less severe and disappeared entirely after the sixth month. Fetal movements had always been painful and during the last month the patient complained of pain in the upper left quadrant. Examination showed a head on the right side with buttocks on the left. The small parts were anterior. A rather large full term fetus was apparently transverse. There was an irregular mass above the symphysis which was believed to be the uterus. Diagnosis: Abdominal pregnancy. Operation: Midline incision. Amniotic sac was opened revealing a living fetus in good condition. The placenta was attached to the intestines on the right side. The right ovary was not located. There were a few adhesions between the uterus and placenta. The uterus was anterior to the mass. That portion of the amniotic sac that could be removed without bleeding was excised. The placenta was left *in situ*. The cord was cut close to the placental surface without ligating the stump. Convalescence was stormy. The patient complained of pain in the right side with considerable distention. There was still tenderness and pain on the right side at the time patient was discharged. The baby was sent home in excellent condition. A month later this patient was examined by the doctor who operated and he found a mass on the right side with considerable tenderness. He took her into the hospital again and did a secondary operation, removing the placenta. Patient did very nicely following this and was relieved of all of her symptoms.

*Case 5.*—This case is very similar to the preceding one. A white woman entered the hospital on July 25, 1933, with a diagnosis of a transverse presentation and placenta previa. She was thirty years of age; Para II. Past history: She had had an appendectomy and an ovarian tumor was removed several years previously. Patient had been spotting for twenty-four hours before hospital admission. She was about at term. She complained of indefinite abdominal pain during the early part of pregnancy but was free from same during the latter. Pre-operative diagnosis was the same as made upon admission. Operation: Under spinal anesthesia the abdomen was opened in the midline. There were a large number of omental adhesions. These were freed and the amniotic sac was found free in the abdominal cavity. It was opened and the child was removed. The baby was in excellent condition. The placenta was attached to the broad ligament below the insertion of the tube. The broad ligament was clamped and the placenta and sac were removed. All hemorrhage was controlled with figure 8 catgut sutures. The right ovary was partially destroyed. It contained a cyst which was punctured. Probably the blood supply to this ovary was destroyed in controlling the hemorrhage. The left ovary had previously been removed. The raw areas were peritonealized and the abdomen closed in the usual manner. Convalescence was uneventful. The baby weighed 7 pounds 11 ounces. Mother and baby were discharged in excellent condition on the fifteenth day postpartum.

*Case 6.* The patient was sent into the hospital with the complaint of vaginal bleeding. She had her last menstrual period about four and a half months before admission. About five weeks before hospitalization, she began to flow intermittently, passing large clots. Three weeks previously she began to have irregular bearing down pains in the lower abdomen associated with nausea and vomiting. At-

tacks would come on suddenly and pain was so excruciating that it necessitated resting in bed. Bleeding continued almost steadily for three weeks. The diagnosis was probable malignancy or threatened abortion. An x-ray examination confirmed the diagnosis of pregnancy and on vaginal examination under anesthesia the uterus was felt to one side of the mass. A sound was passed into the uterus. A diagnosis of abdominal pregnancy was made and operation decided upon. Operation: On opening the abdomen, the fetus was found in the abdominal cavity surrounded by the amniotic sac. The cord was cut and a dead fetus the size of a four and one-half months' pregnancy was removed. The placenta was somewhat adherent to the bowel and was removed with some difficulty. Hemorrhage was severe. Right tube was removed. Two Mickulicz drains and two pieces of iodoform gauze were used for drainage. This patient died shortly after she was returned to her room.

*Case 7.*—This patient had previously been in a small private hospital and was transferred from there. She had been treated palliatively for several days when seen by a consultant who had her transferred. On August 8, 1933, she entered this hospital in shock. She was moribund, with color suggesting hemorrhage, the pulse could not be palpated and there was practically no sound at the apex. Adrenaline, 15 minims, was given. It was impossible to get any fluids into the veins. Previous history was not obtained. Autopsy showed uterus was slightly enlarged. Right tube was replaced with fibrous tissue fused with part of the ruptured ovary. Dead fetus of four months duration was removed. A diagnosis of abdominal pregnancy was made.

*Case 8.*—A colored patient was admitted to a local institution complaining of pain in the abdomen. She had felt life for several months and had attacks of pain for six months previous to admission along with shortness of breath. She spotted daily for a week previous to her first admission, when a diagnosis of normal pregnancy was made and the patient was discharged. A few weeks later she was re-admitted with the same symptoms plus the fact that she was running a temperature of about 102°. Positive blood cultures of *B. coli* were obtained. She developed a lobar pneumonia in the left base which subsequently resolved. The course was febrile during her entire stay at this hospital. She had repeated transfusions and her blood culture findings became negative. The abdomen was distended so that it was impossible to palpate. Lipiodol was injected into the uterus and diagnosis of abdominal pregnancy was made. She was operated upon. A badly infected abdominal pregnancy of about six months' duration was encountered with some infected amniotic fluid with colon odor and much gas. Fetus and placenta were freed and removed. The sac was sponged dry and two large abdominal packs were left in the cavity. The edges of the sac were sutured to the abdominal wall. Patient had a stormy convalescence, temperature ranging from normal to 103°. Packs placed at operation were removed and the wound gradually closed by granulation. She was discharged in good condition.

*Case 9.*—These last two cases are very similar. This patient was brought into the hospital in shock after attempts to induce labor both medically and surgically in the home had failed. She was at term but had not felt the baby move for two or three weeks. The urine was loaded with casts. She had no headaches, spots before the eyes or elevation in blood pressure. She had crampy pains in the right lower quadrant for the past three weeks. She had quinine and castor oil followed by a course of pituitrin. A Voorhees bag had been inserted and

there had been an attempt made at manual and instrumental dilatation of the cervix. This necessitated several anesthetics. On July 22, 1933, she was operated upon after a diagnosis of ruptured uterus. In opening the abdomen, a full term abdominal pregnancy was found and a dead fetus was removed. The placenta was left *in situ*. The day of operation the patient reacted fairly well. She had some cyanosis. The following day after a nasal tube had been inserted patient felt very much better. Rather suddenly she had what seemed to be a choking spell and tried to get out of bed. On arrival of the interne, the patient was found dead. An autopsy was not performed, but it was thought that she had had a pulmonary embolus.

*Case 10.*—This was a most interesting case. The patient walked into the hospital. As she was beyond her calculated date of confinement, medical induction of labor was immediately started. Since that failed, she was taken to the obstetrical room where, under anesthesia, the cervix was manually dilated. This was of no avail, so she was brought back to the delivery room. Later on that day she was given another anesthetic and a Voorhees bag was inserted. The bag came out a few hours later, at which time she was four fingers dilated. The operator claimed that he could feel fetal parts through the cervix. Two days later another anesthetic was given and another bag inserted. She was seen that evening by a consultant who ruled out abdominal pregnancy because the operator could feel fetal parts through the cervix. On the following morning she was given yet another anesthetic and an attempt was made to rupture the membranes, which was without success. Her pulse at this time was around 140. She was gradually getting weaker and the following morning was taken to the operating room and examined under anesthesia by a consultant. The cervix admitted two fingers. The uterine cavity was explored and was found to be empty. The uterus was the size of a two and one-half months pregnancy. Diagnosis of abdominal pregnancy was made. On opening the abdomen a thick amniotic sac was exposed which was closely attached to the large bowel on the right and upper part. The uterus was felt in the pelvis in front of the amniotic sac. The left horn of the uterus ran into the mass, probably a left tubal pregnancy in the beginning. The sac was opened and was found to be filled with old blood, partly clotted, along with some brown fluid. A dead female fetus with beginning maceration was extracted. Examination showed the placenta in the wall of the sac attached flatly to the peritoneum with two large vessels running into the placenta. The placenta was easily removed. Raw surfaces where the amnion was covering the peritoneum were left without attempt to cover. The left horn of the uterus was removed and closed with catgut. The patient was in shock at the conclusion of the operation and lived only a few hours.

In analyzing these cases one finds that many of them had several symptoms and signs in common. Practically all of them complained of indefinite abdominal pains, especially during the first four months of the pregnancy. Most of the women had irregular spotting at some period during the pregnancy. The vaginal bleeding was profuse in only one case. Many of the patients had gastro-intestinal symptoms such as nau-



sea and vomiting, sometimes occurring during the entire pregnancy, being decidedly more marked than in normal cases. A firm, hard mass was felt in either lower quadrant in the majority of the cases and in at least one case definite contractions could be felt on massaging same. The fetus in almost every case was found on the right side. One case demonstrated how pyogenic bacteria sometimes gain access to the sac which is adherent to the intestines and gives rise to suppuration.

In any case that goes much beyond the date of confinement, one should at least be suspicious of an abdominal pregnancy and have an x-ray taken, a vaginal examination should be made if necessary under anesthesia, a sound passed into the uterus or lipiodol injected to confirm the diagnosis. It is

to be remembered that normal menstrual periods may be resumed after the fetus is dead.

On vaginal examination there is a point to remember and that is that the cervix very often points directly anterior and is behind the symphysis, making it extremely difficult to find the external os.

The question of whether or not the placenta should be removed at the time of operation cannot be determined in such a small series of cases, but it would seem that if it is attached to the bowel it is much wiser to leave it *in situ*. The end-result in one of these cases would probably have been better if the placenta had been left. If the placenta is attached to the broad ligaments alone, then it can be removed without danger to the patient.

## THE DIAGNOSIS OF EARLY TUBERCULOSIS\*

HENRY STUART WILLIS, M.D.†  
DETROIT, MICHIGAN

As I mull over the problems that confront the worker in the field of tuberculosis today, I cannot but think of the relative freedom with which he may prosecute his work—freedom from the handicapping fear of contagion that for so long has dominated the mind of the patient. The layman has always inclined to fear the disease and to shun those afflicted with it. Such an attitude in the past has sent many an undiagnosed consumptive to his grave instead of to his doctor. Fortunately for physicians and society the public has come to observe a good deal of sense in its reaction toward those diseased and no longer condemns the consumptive to ostracism. Patients go to their physician when they have symptoms, and the physician needs all the finesse at his disposal to diagnose some of these. But it is an astonishing fact that even now three-fourths of the patients in whom tuberculosis is diagnosed are in the moderately or far advanced stage at the time of the diagnosis. This means that, in far too many cases, tuberculosis is ushered in with symptoms that are relatively insignificant and are insufficient to send the patient to seek medical advice while the disease is still minimal. This means also the

need of a departure from our accepted and conventional point of view if we are to apprehend large numbers of patients in the early stages of the disease. May we discuss briefly this question from the point of view: first, of the diagnosis of the patient who applies to the physician; and, secondly, of the detection of the disease in the early, asymptomatic stage.

Medical literature is replete with discussions on the diagnosis of tuberculosis, and he is a hardy person who essays to add very much to the extant knowledge on the subject. However, it may possibly be profitable for us to review, together, as a group, some of the more important factors on which we may depend to make the diagnosis, especially in the early stages of the disease. Several dependable criteria have been added to our armamentarium since the days when symptoms alone offered the only basis for diagnosis and when the early physicians di-

\*From the William H. Maybury Sanatorium (Detroit Municipal Tuberculosis Sanatorium), Northville, Michigan. Read before the Section on Medicine, Michigan State Medical Society, Battle Creek, September 13 and 14, 1934.

†Dr. Willis obtained the degrees A.B. at University of North Carolina, 1914; M.D. at Johns Hopkins University, 1919; M.A. at Johns Hopkins University, 1920. He was instructor in Medicine, Johns Hopkins University, and Visiting Physician, Johns Hopkins, until 1930. He was Pathologist, Wm. H. Maybury Sanatorium, 1930-1933, and is Superintendent and Medical Director, Wm. H. Maybury Sanatorium at Northville, Michigan.

agnosed "consumption" in those in a "decline," in those with cough and fever, with hectic; with spitting of pus. Laennec, as we all know, described symptoms and gave us the stethoscope and a masterly description of the physical signs of the disease. Koch pointed the way to the diagnosis by finding tubercle bacilli in the sputum. Pirquet enabled us to separate the infected from the noninfected, and Roentgen provided the means of determining accurately the presence, the extent and the type of the disease. In the scheme elaborated from the contributions of these four great medical names, we have all that is required to arrive at the diagnosis in the average, and, indeed, in the atypical case of tuberculosis.

There are those who would strip the diagnostic maneuvers to one procedure and thus make a quick but accurate diagnosis. Yet many hold it as essential that we base the diagnosis on maximal rather than minimal data; that there should inhere in the diagnosis a conception of the present status of the disease—a knowledge, at least an estimate, of the amount of debility and functional derangement which the disease has imposed upon its victim at the time the diagnosis is made. Surely we can proceed intelligently to treatment with no less.

What are these few essentials through which we move to the diagnosis? We are all familiar with them. I trust that it is within the bounds of the title to discuss the question from the standpoint of the value of the whole approach rather than to dwell upon the technic or the results of particular procedures.

Consider first the history of the case. In most instances the patient with early tuberculosis is asymptomatic. It is important to know whether symptoms have been present and, if they have, what and how severe they have been. It is helpful to know what the disease has done to the patient during the past weeks or months—since the onset—and what it is doing to him now. It must be known whether symptoms point to localization of the disease in the chest alone or whether they indicate complications or subsidiary foci elsewhere. To avail ourselves of the information which a good history will provide, we should sit down leisurely with the patient for 15 or 20 minutes and talk over his symptoms with him. We should be biased in our approach by inquire-

ing as to symptoms relating to the different systems of the body and the extent and duration of these symptoms. We should ascertain something as to exposure to tuberculosis; as to whether exposure has been casual or intimate and for a brief or an extended time; as to whether exposure was present during the childhood or adult years of the patient; as to whether in the exposure he who was the source of germs had been careful or careless in the disposal of his sputum and in his sanitary habits. Finally, we should ascertain data concerning such accessory factors as stress and strain, worry, overwork or loss of sleep.

A history taken in this way will yield the information that the patient may have fallen ill insidiously with fatigue, noted first as an inability to carry through his day's work as he formerly had done, and had developed a slight, dry cough which gradually grew more marked and became productive; that he had had a cold which never completely cleared; that he had lost his appetite or had lost weight; that he had been well until an hemoptysis drew him up short or pleurisy sent him to his doctor; that menstrual, gastrointestinal or laryngeal difficulties had beset him or that the lymph nodes of his neck had become swollen. Obviously none of these symptoms is pathognomonic of tuberculosis, but it is equally obvious that every one of them suggests the necessity of ruling out this disease.

Secondly and thirdly; the physical and x-ray examination. With the advent and extensive use of the x-ray, of what service is the physical examination? Do we need to go through this somewhat long and often laborious procedure when the x-ray will reveal the disease in detail? These questions arise repeatedly. At present it is difficult, if not impossible, for a doctor to justify his failure to have an x-ray of the chest in any case whatsoever in which there is suspicion of pulmonary disease. The ideal setup would include this procedure in each patient as an integral part of the examination. The x-ray detects small areas of disease and occasionally large ones which physical examination may overlook. It defines cavities more sharply and marks the limits of the pulmonary lesions more clearly. It is helpful, particularly in children, in indicating tuberculosis which escapes detection by physical examination. Frequently it will



fail to indicate the presence of fibrinous or dry pleurisy, distinguish between tuberculosis in the base of the lungs and chronic, nontuberculous pulmonary disease, or between the latter and pulmonary congestion from cardiac disease. It will suggest but it alone does not diagnose "activity" of existing tuberculosis. A technically satisfactory film is essential. A poor film is just as worthless as the sorriest, most carelessly done physical examination. One should require a good film and a good physical examination if one is to give the patient that judgment and advice for which he has come to the doctor.

The physical examination often fails to disclose the disease in part and sometimes altogether, although, when carefully done, it fails in this regard much less frequently than some are wont to believe. Yet it yields the clinician valuable information concerning the local disease, the amount of functional derangement which the latter has caused (*e.g.*, degree of expansion, etc.), an estimate of the disability which the patient has suffered; an evaluation of the patient's present general condition; it indicates the existence or nonexistence of tuberculosis elsewhere in the body or of other concurrent disease, for the examination should obviously cover the entire body and should never be confined to the chest alone. The physician acquires most of his clinical ability, wisdom and judgment—the "art" of medicine—through his contact with sick people. As he does his physical examination and studies the x-ray film he should mentally perform an autopsy on the patient and visualize the state of disease. Surely, with this attitude, he will be enabled to finally fit the data from all available sources into a fuller quantitative diagnosis than if he obtained data of but one sort.

At this point one may pause to remark that it is highly desirable to have coöperative endeavor and frequent consultation between the roentgenologist, who should know clinical medicine, and the clinician, who should be able to interpret the roentgenogram. Such contact can not but add to the diagnostic finesse of both.

In the next place, all of us recognize the value which the laboratory offers for the diagnosis of tuberculosis. Yet the laboratory examination may give the absolute diagnosis or it may be worse than worthless, depending upon how wisely the examined ma-

terial is collected and how carefully it is prepared and examined. The early case of tuberculosis sheds but few bacilli and these but intermittently. Therefore the casual collection and examination of a specimen, which is often only saliva, will give comfort to the patient and, at times, to the doctor because it will always be negative. The specimen should be the morning production which the patient *coughs* up, not what he clears out of his throat. It is often necessary for the physician to superintend the production and collection of the specimen. Bacilli are much more likely to be present in the very small, whitish, opaque masses than in the remainder of the specimen. So these should be selected for smear and stain. This means that the specimen should be collected in a wide-mouthed container, without a neck, and that care should be exercised in its gross examination. Examination must be repeated a good many times in most cases of early tuberculosis and concentration methods will yield tuberculosis bacilli not infrequently. No case may be called non-tuberculous on the examination of a single specimen. One certainly does not delay in making the diagnosis of tuberculosis because the sputum is negative, if the other parts of the examination indicate its presence, but for practical purposes a positive sputum makes the diagnosis absolute. Too often the physician is content to have the patient spit in a bottle (sputum, saliva or post-nasal secretion), and send this single specimen away for diagnosis.

An excellent example of the advantage of the laboratory examination is afforded in an experience of mine, which occurred not ten days ago. A young woman was sent to me with a story of rather stormy pulmonary symptoms which followed near strangulation on popcorn. Symptoms, signs and history suggested a basal abscess or bronchiectasis, yet the examination of three twenty-four hour specimens of sputum revealed tubercle bacilli in two.

So far this has been a sketchy account of the detection of pulmonary tuberculosis in the person who comes to the doctor. What about the discovery of this affection in those unsuspecting people who harbor it unknowingly? Does it fall within the province of the physician to seek out cases of tuberculosis in those who do not apply for advice? These two facts are true: first, that the expectation of cure is much greater for the

patient if his disease is discovered in its early stages; secondly, the patient, who unwittingly carries his developing disease into society for weeks or months before he feels himself ill enough to visit his doctor, spreads the seeds of his disease to many of his friends and contacts. Is it not incumbent upon us to resort to any available means possible that will save the patient from progressive disease on the one hand and, on the other, will protect society from the menace which he offers if he remains unapprehended?

How may the practicing physician anticipate tuberculosis in his clientele? "Tuberculosis begets tuberculosis." What is more logical then than that the physician, once he has made a diagnosis, should anticipate the harvest from that case by examining the members of that patient's family and his other intimate contacts! Such an examination should invariably include an x-ray examination of the chest. The time will come and must come when x-ray examinations will be of sufficient volume to bring the cost within the reach of all and will enable the examination to be repeated as often as is deemed necessary. The doctor knows that tuberculosis may arise relatively rapidly and acutely; likewise he is aware that the seed which causes it may be dormant for months or years. Logically, then, he should keep the exposed family under rather close observation, be on the lookout for suggestive symptoms and, most important, put the contacts through a repeat examination twice a year.

His second attack on the situation should consist in encouraging an annual examination (including an x-ray examination of the chest) of the healthy members of his community. The degree to which this may be profitable to the patient, the community and the physician is shown by results reported by the Life Extension Institute, the larger insurance companies and many industrial organizations. His difficulty here is to get the patient to have the examination.

A third approach is one suggested recently by Amberson. He pointed out the known fact that the death rate among infants who have become infected with the tubercle bacillus is quite high, although the total incidence of tuberculous infection is not unduly high among them. Therefore the prevention of infection is a high duty of adult members of households that harbor or an-

ticipate children. Such groups may be brought to see the desirability of a yearly physical check-up and x-ray examination.

The practitioner should be alert to follow up the leads he may get from surveys which health departments and health societies make when they canvass the schools with their tuberculin testing and x-ray examinations, for these agencies report their results to the local physicians. Further, he should lend his support to such large scale efforts at case finding as are carried out among children and welfare charges.

In this search the physician has at hand a useful but insufficiently used weapon which is applicable particularly to the juvenile portion of his practice. This is tuberculin. The properly executed tuberculin test will indicate whether the tested child has tuberculous infection, but it will not give information as to whether the infection is a mere histological tubercle of relative insignificance that is tucked away in some remote part of the body or whether the infection is present as progressive, clinical disease. It indicates the groups—usually less than 25 per cent—of all children under fifteen years of age who should be explored further to ascertain whether their infection is active. At the same time it eliminates from necessary attention at the moment the seventy-odd per cent who are without infection. Tuberculin is much less helpful in dealing with adults because the incidence of infection is so high, yet persistent failure to react to tuberculin points away from tuberculosis as the diagnosis in a given, puzzling case.

If the practitioner will use tuberculin testing and physical and x-ray examination in his active search for asymptomatic but clinical tuberculosis, he will render his patient and his community a very real service in no small number of instances. Yet it does but little good to apply these examinations once and assume, as some do, that the tuberculosis problem is solved for that particular group. It is solved, but only for the time. If such a scheme is to become a practical weapon, it must be done in large numbers of people and must be repeated at least annually.

And if it should become feasible on this basis, would not the cost be a barrier to its execution? The cost is relatively great, yet the cost should not be great when we reckon it against the profit to the sick individual



and the community, for case finding must fit into the general scheme of anti-tuberculosis effort, which assumes prompt and adequate treatment of those in whom the diagnosis has been made.

In one series of 50,000 school children, the cost per case amounted to \$300; the cost per capita \$1.00. But the cost of treating an average case is from \$1,000 to \$1,500. Early detection should lessen the cost of treatment because the early case requires a shorter course of treatment. Also,

the bulk of work required by large scale examinations should of itself lead to a reduction in roentgenological fees.

Case finding in tuberculosis will doubtless become an increasingly important feature of public health agencies. At the same time it challenges the practitioner to find the disease within his own clientele and to cooperate in the endeavor to eradicate it.

### Reference

Amberson, J. B.: Some case-finding principles of practical significance. *Jour. Outdoor Life*, 31:336, 1934.

---

## CHRONIC SINUSITIS IN CHILDREN\*

FERRIS SMITH, A.B., M.D., F.A.C.S.

GRAND RAPIDS, MICHIGAN

It is a pleasure to appear before this section on pediatrics. My function in medicine is the management of a special phase only of the entire body function which is your immediate responsibility. Your officers have asked me to discuss this subject of chronic sinus disease in children because of an expressed feeling that I had some expert knowledge concerning it. I must decline the complimentary assumption and express the opinion that no one has a sound explanation for some of the pathologic phenomena noted in the upper air passages of children and adults.

We know so little of the normal physiology, so very little about the functions of the vegetative nervous system, the influence of the endocrine glands, the effects of food, temperature, humidity and other factors of environment, so little of the fundamentals of allergy, so little of the effects of useful therapeutic agents, etc., that it is absurd for anyone to pretend to a knowledge of the subject.

Fraser, Proetz, Hilding and others have added something to our understanding of the physics and the mechanical physiology of the sinus and nasal epithelium but nothing else has been produced to aid in our understanding of abnormal phenomena. Several observers have demonstrated the deleterious effects of some of the commonly employed drugs utilized in the treatment of these conditions and have classified the two therapeutic agents that can be employed without irritation. Please bear in mind that we are considering sinus disease and not the intranasal conditions that precede or follow it.

Proper prophylactic and therapeutic man-

agements will remain obscure until we know more of physiological, biological and physical chemistry. We are just beginning to realize that the effects of the actinic rays of the sun, of temperature, of relative humidity, of foods, of hygiene, on these chemistries determine the polarity and relation of cells which characterize health or disease. We must consider not only the effects of the local disease upon general body conditions but also the converse—the influence of the general body economy in producing the local disturbance.

These are inspiring and tantalizing speculations. They promise something for the future, but nothing of immediate practical value.

An understanding of the location and the recognized etiologic factors in our problem is essential.

The bone absorption producing the maxillary sinus is not complete at birth but a portion of the future cavity exists and has clinical importance in the first days of life. The frontal sinus, as such, does not exist at birth but assumes its adult form about the twelfth year. The sphenoid sinus is usually

---

\*Read before the Section on Pediatrics, Michigan State Medical Society, Battle Creek, September 12 and 13, 1934.

represented by a pit at birth and reaches its adult form about the twelfth year. It may become infected as early as the third year. Both the frontal and sphenoid sinuses may be considered a part of the ethmoid labyrinth during the first years of life. The latter is well developed at birth. Consequently, we have to consider the management of two sinuses which differ greatly in their physical arrangements and therapeutic approach. These sinuses have ostia approximating the adult size and are relatively larger at this period of life. This contributes to the ease of infection.

The etiologic factors may be generally classified as constitutional and local.

The constitutional factors include the infectious diseases, the allergic states, and the many things which diminish organic resistance such as endocrine dyscrasia, vitamin deficiencies, changes in temperature, relative humidity, poor hygiene and lack of sunshine. The local factors include all of the various obstructions to proper breathing and aeration of the sinuses.

Dean believes that "if it were not for the allergic states, nutritional disorders and endocrine disturbances, we would not have many cases of sinus disease."

Little is known about sinus physiology. We know the structure of the lining, the presence of a ciliated epithelial covering which propels a mucus sheet toward the ostia and of numerous glands to furnish this mucus. We know that the presence of certain chemicals paralyzes these cilia and that the absence of others (Vitamin A and B) produces hyperplasia and keratinization of the cells. We know that the absence of ventilation causes a metaplasia of these ciliated cells with consequent loss of protection. It is probable that the invasion of infection is secondary to these changes (Linton and Wenner). The chronicity and type of the infection and circulatory changes determine the pathological alterations which follow.

Symptoms and signs are as follows: Obstructed nasal respiration; frequent and protracted colds; nasal and post-nasal discharge; inflamed and fissured nostrils; sneezing; swelling of the eyelids; conjunctivitis and lacrimation; red or pale and boggy nasal mucosa; granular pharyngitis and enlarged and inflamed lateral bands.

The history should be taken with careful attention to the points that will reveal

a family allergy, dietary and hygienic faults, endocrine disturbances; influence of contagious diseases; environmental influences such as sunlight and fresh air.

The examination should be made by a competent rhinologist who will note the condition of the skin about the nostrils and lips; the color and circulatory condition (presence or absence of edema in the turbinates and mucosa) of the nasal mucosa; and the presence, source and amount of nasal secretion; the study of the cytology and bacteriology of the secretion is of prime importance. Dean believes that an eosinophilia in excess of 10 per cent establishes the presence of an allergy. The absence of eosinophils does not exclude allergy. An adequate explanation of the increase in these cells does not exist. The examiner will note the absence of secretion in the presence of a pale moist covering of the middle turbinal and meatus; the presence of granular pharyngitis and enlarged lateral bands; the presence of infected tonsils and adenoids and the presence of a cervical adenitis.

One must not overlook the physical signs and x-ray findings in the chest which belong to a chronic sinusitis and which are frequently ascribed to a chronic tuberculosis. The best combined effort and judgment of the pediatrician and rhinologist are involved in this appraisal.

Dean believes that all cases of recent influenza or colds with persistent fever, leukocytosis and malnutrition with an ear or respiratory diagnosis should be considered as dependent on a chronic sinusitis.

An appreciation of all that constitutes a chronic sinusitis is interesting and essential but it is vastly more important to know how to manage it. The two things are intimately related because the plan of treatment in several instances will evolve from an understanding of the causes which produced the abnormality.

At the outset of this consideration we must recognize that we are dealing with a pathological process in a cavity and that this cavity is not the nose. Consequently, much of the practiced treatment consisting of sprays, "drops" and packs become nonsense. They are a reflection upon the intelligence of the practitioner who uses them.

If we are dealing with a case with an allergic background, it is obvious that a local treatment has none other than a palliative value. If the patient is one with an



endocrine etiology, we must resort to mouse tests for pituitary and, later in life, ovarian dysfunction and proceed according to our findings. Thyroid dysfunction may also be estimated but, frequently, it is wise to prescribe empirically.

If we are dealing with malnutrition, we must recognize that, whereas proper diet is the foundation of a proper rhinological management, it cannot proceed without it. The cell damage has already been accomplished and cannot be corrected by diet alone.

Environmental factors may be altered but the damage has already been done. A change in this must be accompanied by therapeutic assistance.

There are only two ways in which a therapeutic agent can be introduced into a sinus: namely, a displacement by the Proetz method or direct injection through a canula or needle. All of the packs, drops and sprays have only a questionable effect on the nasal mucosa and can never influence a chronic sinus except through alterations in local circulation. It is highly probable that sprays and drops do not penetrate the mucus film over the nasal membrane sufficiently to have any material effect.

Only ephedrin sulphate and adrenalin chloride in normal salt solution may be introduced into a sinus without irritation. Both of these agents accomplish the desired effect in producing shrinkage with consequent ventilation, drainage and restoration of normal circulation. The chronic changes in children are not so marked as in adults and, consequently, the results of treatment are better.

Operations are rarely indicated except for the removal of infected tonsils and adenoids, the management of suppuration with bone involvement, reconstructions and not removal of anatomical deformities in the nose, and antrum irrigations. One of my friends has a long record of success in clearing chronic coughs and nasal symptoms with

one thorough antrum irrigation under primary anesthesia.

Another friend and former pupil has a series of nearly two hundred cases of treatment with minimum doses of x-ray. The results have been spectacular. The exposure has been made anteriorly over the nose and through each malar region. The dose is minute and only rarely repeated.

Those cases complicating or complicated by parenchymatous nephritis and nephrosis should be treated most conservatively. Ephedrin for shrinking and ventilation should suffice. The patients with glomerular nephritis resulting from a streptococcus infection should enjoy a similar conservatism and only suffer a surgical interference when a general septicemia threatens.

Finally one may consider the intracranial complications of chronic sinus disease. There are many reports of resolution of an encephalitis following a proper sinus treatment. The author believes that all cases of basal meningitis, not resulting from a constitutional infection, originate in an osteomyelitis of the basilar process of the sphenoid. This infection proceeds either along the veins which pass through the superior cortex to penetrate the dura mater or involves the dura by direct extension from the bone. There is an early period of several days duration when this process may be recognized and properly dealt with. We have several operated cases and much old pathological data to support our contention. This material will be included in a preliminary report in the near future.

In conclusion, the management of chronic sinus disease in children demands the application of the knowledge which is used successfully in the general management of the patient. If we divorce ourselves from traditional treatments which are not grounded on common sense and apply only a meager knowledge of physics and mechanics to sensible therapeutics, we will be rewarded with a large percentage of satisfactory results.

---

## CONGENITAL HYPERTROPHIC PYLORIC STENOSIS\*

HENRY J. VANDEN BERG, M.D., F.A.C.S.

GRAND RAPIDS, MICHIGAN

A discussion of the surgical management of congenital hypertrophic pyloric stenosis has been assigned to me in this symposium, and I shall, therefore, confine my remarks to that phase of it.

The first operation recorded for surgical treatment of congenital hypertrophic pyloric stenosis was a jejunostomy performed by Cordua in 1893 (forty-one years ago). In the five years following, various other types of operation such as dilatation of the pylorus, pylorotomy, pyloroplasty of one kind and another, were done, but the results were unsatisfactory and on the whole the mortality was high. In 1898, the first gastroenterostomy was performed for this condition and for fifteen years this procedure was the operation of choice, as the mortality in the hands of capable surgeons was not prohibitive. In the hands of most operators, however, the mortality remained high with the result that surgical treatment was advised usually as a last resort and it did not become generally popular until the more simple extra-mucous pyloroplasty was evolved. The first of this type of operation to be successful was by Fredet, in 1907. He performed successfully a sub-mucous pyloroplasty by means of a longitudinal incision throughout the length of the thickened pylorus down to, but not through, the mucous membrane; he then transformed the longitudinal into a transverse wound by means of sutures, but the tumor tissue was so rigid, yet friable, that it was almost impossible to suture it satisfactorily. In 1912, Rammstedt advised the omission of the transverse suture; he suggested employment of the longitudinal wound but to do nothing more. This simplified procedure, now known as the Fredet-Rammstedt operation, has resulted in revolutionizing the treatment of congenital pyloric stenosis. It is based upon the principle of the hypertrophied circular muscle constricting and obliterating an otherwise normal mucosa and lumen. Therefore, a simple longitudinal incision the full length of the tumor, cutting transversely the circular fibres and bringing about sufficient separation of these fibres, restores the normal lumen.

### Technic†

An incision 2 inches in length, a little to the right of the midline, through the upper

right rectus muscle, gives the best exposure. The pyloric tumor is easily recognizable because of its size and firmness. It is grasped by the thumb and index finger and delivered through the incision. The incision should be made through the most bloodless part of the pylorus, which is on the anterior surface and usually at the juncture of the upper and middle thirds. After the incision has been made a pair of forceps is inserted into the center of the incision and spread gently to tear the undivided portion of the muscles in order to expose the mucous membrane completely. A blunt dissection is continued from the stomach toward the duodenum and carried in the line of cleavage to the duodenal ring. The separation of the incision in the muscular layers should be sufficient to permit the mucous layer to protrude freely into the wound beyond the level of the peritoneal covering. There is great disparity between the thickness of the hypertrophied pylorus and the thin-walled duodenum. The transition from one to the other is abrupt and great care is therefore necessary at this point of the operation to avoid tearing the duodenal mucous membrane. The hypertrophied muscle of the tumor gradually merges into the relatively normal muscular layer of the stomach, the wall of which is much thicker than that of the duodenum. There is, therefore, little danger of entering the lumen on the stomach side. While the operation is a simple one, considerable skill is required to do the job nicely and without cutting or tearing the duodenal mucosa. I have had the accident twice although I was exercising the utmost care to avoid it. If recognized and taken care of by a fine suture it is not a serious accident but it is easily overlooked and if so peritonitis is likely to follow and the result may then be disastrous.

\*Read before the Section on Pediatrics, Michigan State Medical Society, at Battle Creek, September 12 and 13, 1934.

†The author illustrated his paper, particularly the technic of operation, by means of lantern slides.



In our experience, the Fredet-Rammstedt operation gives a perfectly satisfactory functional result. In one of our cases it was necessary to re-operate, but the end-results are very gratifying.

Strauss devised an extra-mucous pyloroplasty which has been highly satisfactory in his hands. He frees the mucous membrane throughout its circumference and the exposed portion is then covered with a flap derived from the thickened muscle layer. The Fredet-Rammstedt operation is technically simpler and so uniformly satisfactory that from being the operation of choice it has now become almost routine. There seems to be no reason to employ any variation. It may be said, I believe, that there is no more satisfactory operation in surgery than the Fredet-Rammstedt operation on a breast-fed baby in good condition.

#### Preparation for Operation

The operation should never be carried out as an emergency measure. Dependent upon the degree of starvation and dehydration, from one to three days are needed to prepare the patient for the ordeal of the operation, however simple it may be. In addition to the usual hypodermoclyses of 3 per cent glucose in salt solution, one or more transfusions may be given. The details of the preoperative preparation, as well as the after treatment, are usually managed by the pediatrician.

#### Anesthesia

The last years we have not used an inhalation anesthetic. We have used local

anesthesia instead, supplemented by paregoric, whiskey and a sugar pacifier, perhaps. This method is entirely satisfactory and it is safe.

We have operated in thirty-four cases, in one by the Strauss method, and in thirty-three by the Fredet-Rammstedt method. We had one death on the day of operation, and one death two months after operation which was said to have been caused by colitis. This latter did not seem, in any way, traceable to the operation. The average age at the time of operation was eight weeks. Of the thirty-four cases, twenty-seven patients were male and seven female, a ratio of four to one, which is quite in accordance with the rule.

I realize, of course, that medical treatment and management of this condition is satisfactory in a good percentage of cases, but it is not wise and fair to extend this type of treatment over a period of weeks and months with resulting increased susceptibility to infection and the possibility of permanent damage to the growing infant from impaired nutrition at a critical stage in its development. If, on the other hand, as soon as the diagnosis is made, the infant be given the advantage of surgery it will soon be on the breast again and the loss of weight will be negligible. The so-called operative mortality is due largely to delay in diagnosis or to delay in advising surgery. Convalescence after operation is rapid and the infant returns almost at once to normal development.

---

## TREATMENT OF TRICHOMONAS VAGINALIS VAGINITIS\*

J. CAMPBELL SMITH, M.D.†

DETROIT, MICHIGAN

A great deal of literature has appeared within the past few years in the various medical journals on this interesting subject. However, the condition is such a common one, occurring as it does in twenty per cent or more of all gynecological patients, and is still being not diagnosed or confused with other conditions by so many medical men, I feel that it is wise to bring certain phases of the subject to your attention.

I will not delve into the history of this infection, other than to say that, although it has been described numerous times during the past hundred years, it was not until four or five years ago that we began to pay much attention to it. Many patients appeared with a vaginitis, the exact nature of which was not determined, and when smear after smear was reported negative for the gonococcus organism, they were subjected to all manner of treatment, and in many instances even cervical amputations and total hysterectomies were done in a futile effort to eradicate the discharge. Later on, when we began to realize that such a condition as trichomonas vaginalis vaginitis really existed, these cases did not present such problems to us, for most of them cleared up quite promptly by simple office treatments.

The difficulty still presenting itself is our lack of knowledge as to the life cycle of the organism and the focus or foci of the infection. We know that it is a simple, single-celled flagellate, which reproduces by longitudinal binary fissure; that it is identical with, or closely related to, trichomonas intestinalis, which is found in the intestinal tract; no spore or cyst forms have been described. The organism has been found repeatedly in the mouth, rectum, bladder, prostate, kidneys, and vagina. There has been much conjecture over the organisms found in areas other than the vagina and many men have argued that the vaginalis parasite is not related to those flagellates found elsewhere. However, the only differences noted have been in the lengths of the undulating membrane, and some variation in size and shape, but Stein‡ has shown that these changes can and do occur when

the flagellate is placed in different areas, in different media, and under various changing conditions, so I think it fair to assume that they are all one and the same organism, or at least very closely related.

The symptoms of trichomonas vaginalis vaginitis are very characteristic and a diagnosis may usually be made by the history alone. Profuse discharge, with or without burning and itching about the introitus, and dyspareunia are the usual complaints. In many acute cases the profuse discharge has caused excoriation with intense burning of skin around the vulva, occasionally extending well down onto the inner surfaces of the thighs, even to the knees. A great many women complain *only* of discharge, particularly just preceding and following a menstrual period.

Examination of acute cases reveals redness about the introitus, and on separating the labia we find either a diffuse intense inflammation of the vaginal mucosa, or a moderate general redness with numerous areas of what appear to be petechial hemorrhages. The entire vagina is bathed in a very profuse, thin, frothy or bubbly, pea-green discharge, and there is exquisite tenderness throughout, even to a soft piece of cotton. In less acute and chronic cases this picture varies, and we may find no inflammation whatsoever and a thicker, whitish discharge, which is somewhat more profuse following a menstrual period or during a pregnancy. The individual resistance to the infection, of course, modifies the symptoms and findings.

The diagnosis is made very readily in the average case by stirring some of the vaginal discharge in two or three drops of normal saline solution on a slide, covering with a cover slip, and examining under either a high power or oil immersion lens. The flagellates are easily made out by their size,

\*Presented before the Section on Obstetrics and Gynecology at the 114th Annual Meeting of the Michigan State Medical Society held at Battle Creek, September 12 and 13, 1934.

†Dr. J. Campbell Smith graduated from the Detroit College of Medicine and Surgery in 1924. He served his internship at Harper Hospital in Obstetrics and Gynecology, 1924-1927, and, secondly, at the Herman Kiefer Hospital as resident obstetrician from 1927 to 1928. His specialty is Obstetrics and Gynecology. He is on the staff of Harper Hospital.

‡Stein, I. F.: Am. Jour. Obst. and Gynec., 25:819, (June) 1933.



shape and motion, and if examined carefully under the oil lens even the flagellæ are discernible. In many cases active motile organisms are not found and the cells seen in the various fields examined appear to be pus cells, except that they are slightly larger. If we are patient and study these latter cells at length, usually we find one or more of them push out from a perfectly round and symmetrically appearing cell-body what appears to be a pointed head with flagellæ attached. These cells, under cursory examination, look like leukocytes, being multinuclear and granular, but closer inspection reveals them to be slightly larger than the average pus cell and somewhat more granular. These forms are frequently spoken of as spore or cyst forms, but incorrectly so, I believe, my interpretation being that they are simply resting forms or immature forms. In chronic cases and in those individuals whose resistance to the parasite is quite marked, it is impossible as a general rule to make a positive diagnosis of trichomonas vaginalis vaginitis during the intermenstrual period, and it is customary to have these patients return within forty-eight hours after cessation of the menses, with instructions not to douche, at which time active motile organisms will be found, if the disease exists. Likewise this procedure is followed with patients who have been under treatment to determine whether or not the condition has been cured.

### Treatment

The very multiplicity of treatments in use proves that no one universally adequate method has yet been discovered. Almost any one of them is satisfactory for the majority of cases, if persisted in over a long enough period; all of them will relieve the distressing symptoms, but, unfortunately, recurrence is the general rule. Probably the most widely used method, the so-called "wet" method, is that of scrubbing out the vagina with tincture of green soap, rinsing out with water, drying, and the application of any one of numerous medicaments, such as glycerine, boro-glycerine, glycerine with soda bicarbonate or sodium borate, methylene blue, mercurochrome, gentian violet, acriflavine hydrochloride, tincture of iodine, hexylresorcinol, lead acetate, metaphen, Lassar's paste, zinc oxide ointment, neo-arsphenamine, and a host of others. These procedures are usually followed by instruc-

tions to douche with lactic acid two or three times daily.

The "dry" or powder treatment consists of wiping the vaginal mucosa with cotton until dry, and then instilling any one of a number of powders, such as quinine sulphate, soda bicarbonate or sodium borate, phenol in boric acid, powdered sulphur, stovarsol, and others.

Probably any one of the above-mentioned methods, if used intelligently and conscientiously, will produce results in a large percentage of cases, but experience has shown that no one method of treatment thus far described will cure *all* patients. Just when we are about ready to proclaim to the world that at last we have a specific cure, our pride is rudely jolted by finding a very stubborn infection which fails to respond to this treatment. On the other hand, many of these resistant cases will clear up surprisingly readily, if another form of treatment is instituted. It is my firm conviction that all such infections are curable, and it is up to us to be able to find the proper medicament for each individual case. If we are using one mode of treatment routinely, and a case or two appears to resist our best efforts, providing we are sure the patient is coöperating and following instructions, the wisest procedure to follow is to use some other method, and, if this fails to produce results, try still a third method, and so on until something is found which eradicates the disease. However, before deviating from our routine, it is advisable to determine whether we are dealing with re-infection, lack of coöperation, or a resistant flagellate. I feel that many of our failures are probably the result of constant re-infection and perhaps to the neglect of the patient in following our dicta.

When this disease was brought to our attention several years ago, it was commonly thought that practically all such infections were self-induced; that is to say, women generally cleanse themselves after defecating by wiping from the anus forward toward the vagina, and it was argued that, since the trichomonas intestinalis parasite is commonly found in the stools, the organism was deposited on the perineum and found its way into the vagina, where it underwent transition and assumed the vaginalis form. This belief still prevails amongst most practitioners, but I must take issue with it. There are undoubtedly nu-

merous patients who harbor the organism in the intestinal canal, which acts as a focus and is responsible for recurrent vaginal infections, but I do not believe this is responsible for the majority of our vaginitis cases. If this were true doesn't it appear logical to assume that all patients would have re-infection after re-infection, as long as the parasite remained in the bowel, and we seldom direct any attention to this area, from the standpoint of eradication of intestinal flagellates? It is my conviction that most infections are indirectly transmitted from patient to patient by way of the toilet seat and bath tub, and occasionally by means of a third party, the male, in coitus. (A toilet seat is readily contaminated by a woman who harbors the parasite, and during bridge parties, etc., when the lavatory is usually in great demand, how easily a clean individual might and does pick up the infection.) How frequently do we find one member of a household reporting to us with an acute trichomonas vaginitis, to be followed very shortly by her daughter or sister or mother? One patient came to me with an acute infection, which responded very nicely to treatment, and I found her entirely cured of the disease for almost six months. When she again reported with an acute vaginitis, and maintained that she had not sat on any toilet except her own and that no females, other than her three-year-old daughter, had used her lavatory seat, I requested her to bring her child for examination, and was not surprised to find active motile flagellates in a smear from the vagina of her daughter. In this instance, the mother had the primary infection; the child was infected from the toilet seat or bath tub, and later on the mother unsuspectingly again picked up the infection from the toilet seat, the daughter being the contaminating agent.

When a patient first presents herself for examination, a smear of the vaginal discharge is made, and if positive for the trichomonas organism, routine treatment is begun. Just as important, however, are the instructions given to the patient to be followed at home. As a precautionary measure, she is told how to cleanse herself after stool, and, if douches are to be used, the tip or nozzle should be washed with soap and water after using and placed in a strong lysol solution, and again rinsed thoroughly in water to remove all traces of lysol before

douching again. The bath tub and toilet-seat should be washed off before and after using with a weak lysol solution, but it is preferable for the patient to take shower baths only and not to sit on any toilet. Further, coitus should be advised against until a complete cure has been effected, but, if indulged in, the use of condoms is urged. Office treatments are given every two or three days, even though the patient is menstruating, and should be persisted in conscientiously until the infection has been eradicated.

If there is intense inflammation present, office treatments are very painful, and therefore it is customary to have patients douche several times daily with lactic acid ( $\frac{1}{2}$  oz. to two quarts of water) for several days before attempting any treatments. Because of this acute distress occasioned by scrubbing out the vagina with tincture of green soap, and also because of the numerous failures encountered, I have abandoned the "wet" method of treatment and have tried out several powders with varying success. The form of treatment which I have been using for several months and which seems to give the most satisfactory results, with no failures to date, is the following: The vagina is wiped dry of all discharge, and is then painted with a 1 per cent aqueous solution of gentian violet. After permitting this to dry for a few moments, an amebicide powder mixture, suggested by George Gellhorn, St. Louis, is blown into the vagina by means of a powder blower, likewise recommended by Dr. Gellhorn. The powder mixture consists of acetarsone (stovarsol), a synthetic arsenical, used widely for the oral treatment of amebic dysentery and other protozoic conditions, and equal parts of kaolin and sodium bicarbonate. The average dose is 1 teaspoon of the mixture, containing 7.5 gr. of stovarsol, and this dosage is usually doubled when treating during the menstrual period or a pregnancy. The powder blower is so designed that it causes a ballooning out of the vagina, and thus the powder is deposited in all the crevices and folds of the vaginal mucosa. Gentian violet is used empirically, because many men feel that the primary invading agent is a yeast, the trichomonas entering later and the two acting symbiotically. Gentian violet is a known specific destroyer of yeast parasites. The treatments are given every second day and the number has varied from



four or five to a dozen or more. No douches, baths or coitus are permitted, and the results have been very gratifying, several stubborn cases treated by other agents having responded readily to this more recently tried method.

For those patients living out of the city, in the country, or who for some reason or other cannot come to the office for treatments, nothing can be done at present, other than douching. Lactic acid is usually pre-

scribed, but common ordinary vinegar is just as effective, and I have one poor patient who completely eliminated the infection by the use of vinegar douches.

In conclusion, may I again emphasize the prevalence of trichomonas vaginalis vaginitis, the advisability of routine microscopic examination of vaginal smears of all gynecological cases, and the hope that further research work will soon clear up this puzzling problem.

## FACTORS AFFECTING THE IMMUNITY BALANCE IN DERMATOPHYTOSIS\*

LOREN W. SHAFFER, M.D.†  
DETROIT, MICHIGAN

It has been shown that the animal body is altered specifically and permanently by infection with living fungi. The study of its immunity is therefore a problem in allergy. The fact that an attack of dermatophytosis does not render a patient immune but seemingly increases his susceptibility, that attempts at desensitizing guinea pigs with extracts of fungi have failed, and that the allergy developed at the height of infection produces those very lesions (trichophytids) we wish to guard against, would seem to destroy the hope of producing lasting immunity by vaccine therapy. It would be of great value to know how immunity may be induced, but, until we have more definite knowledge of this, consideration must be given to those factors affecting the immunity balance, which play such an important rôle in the induction of acute clinical involvement and resistance to treatment. The balance between immunity and active infection is evidently a delicate one, and many factors may precipitate clinical involvement in the presence of latent or dormant fungus infections.

Susceptibility to infection varies with age and males are seemingly more susceptible than females. A high degree of immunity is present in infancy and old age. Susceptibility increases rapidly at puberty and reaches its peak in adult life. In my report with Cary<sup>11</sup> on "Epidermophytosis in School Children," we found clinical evidence of at least an infectious intertrigo, due either to fungi, monilia or cocci, in 9 per cent of the first grade children, with ascending percentages per grade reaching 76 per cent of senior high school students. This incidence is practically the same for schools with or without gymnasiums and similar per-

tages were found grade for grade in a country school without communal bathing facilities, forty miles from Detroit. Pels and Schlenger<sup>10</sup> report 60 per cent of 810 casualls examined as positive for fungi, while 36 per cent were clinically positive. Numerous other reports of incidence of clinical involvement or positive laboratory findings make it safe to estimate that 50 per cent of all young adults are constantly involved, and it is my belief that this would approach 100 per cent in any group re-examined frequently over a period of years. Although this high percentage of cases shows clinical or laboratory evidence of infection, less than 2 per cent have moderately severe degrees of clinical involvement, indicating a relatively high degree of immunity. It is then only the exceptional individual who is not able to keep his infection under control through his own defense mechanism.

There has been, to my mind, entirely too much emphasis placed on exposure to fungi as the sole cause of dermatophytosis. Granted that the presence of fungi is necessary, it is my aim to show that it is impossible to avoid exposure, since fungi of the Kaufmann-Wolf type are almost as ubiquitous as the staphylococci. Realizing

\*Read before the Section on Dermatology, 114th Annual Meeting of the Michigan State Medical Society held at Battle Creek, September 12 and 13, 1934.

†Dr. Shaffer is a graduate of the University of Michigan, 1917. His practice is limited to Dermatology. He is a member of the American Dermatological Association.

the difficulty of killing these spore bearing fungi plus the large number of carriers who are constantly infecting all objects commonly in contact with either the hands or feet, it must be accepted that sources of infection too numerous to mention are constantly about us. Jamieson and McRea<sup>5</sup> have shown that the skin harbors fungi in its depths even after an acute attack of ringworm has subsided. Strickler and McKeever<sup>12</sup> report the finding of fungi in normal appearing skin at a distance from active lesions. We see many cases of onychomycosis where the nails are a constant source for reinfection. Although these patients are quite susceptible to ringworm infection as shown by the rather unusual involvement, very few of them suffer more than an occasional attack of acute dermatophytosis. On such occasions some predisposing factor can usually be elicited. We, as dermatologists, are being constantly exposed to active infection, yet, without undue precaution, the number of us who suffer from acute attacks of eczematoid ringworm is no greater than for professional men in general. Therefore, acute infections cannot be explained simply on a basis of exposure, but rather on some drop in the patient's resistance to infection. Any effective control of the ringworm problem must depend upon rendering the skin as soil unsuitable to the growth of fungi, or in preventing those precipitating and predisposing factors that permit an otherwise dormant infection a foothold.

It is advisable to instruct patients in a reasonable amount of care against infection or reinfection with fungi, but the time and worry spent by patients in the will-o-the-wisp endeavor at sterilization and avoiding exposure had much better be spent in prophylactic measures and rendering the feet less susceptible to infection. We recognize that it is practically impossible to keep the skin surface free from cocci, and when a patient has recurrent furunculosis our problem is that of building up his immunity and correcting predisposing factors, rather than sterilizing the skin. Therefore, the problems of treatment are not alone that of finding highly efficient fungicides to combat active infection. The most effective applications clinically are simple ones, such as boric acid, salicylic acid, ammoniated mercury and iodine. A most important problem is that of correcting the factors predisposing to infection.

What are these predisposing or precipitating factors that permit an otherwise dormant organism to multiply and cause clinical activity? Undoubtedly heat and sweating of the feet are two of the most common predisposing causes. You have all seen acute attacks following an unusually hot spell, exposing the feet to the heat of a long motor trip, the wearing of high boots over heavy woolen socks while hunting, etc. These attacks can be explained readily on a basis of heat and moisture making an ideal soil for the activation of dormant fungi. My associates and I were impressed by the observation in school children that active involvement was seldom present if the feet were of the long, narrow type with readily separated toes. Conversely with short thick feet and stubby, overlapping toes, involvement was almost constantly present. This again might most readily be explained on a basis of retention of heat and moisture.

Cleveland J. White<sup>13</sup> reported eighteen cases in which a peripheral occlusive endarteritis was the cause of unusual obstinacy of dermatophytosis to treatment. These cases responded promptly when this vascular disturbance was recognized and appropriately treated. Varying degrees of stasis, both arterial and venous, probably play a more important rôle in predisposing to eczematoid ringworm than is commonly recognized.

David and Eugene Liberthal<sup>8</sup> have emphasized the importance of flat feet as a predisposing cause of dermatophytosis. They report that 90 per cent of a series of 195 patients were so affected. The rapid response of otherwise resistant cases to ordinary therapeutic measures following the correction of flat foot deformities justifies the conclusion that orthopedic corrective measures are an important therapeutic adjunct in cases of fungus infection associated with flat foot. Cornbleet<sup>4</sup> has also called attention to the importance of orthopedic corrective measures as an adjunct to local treatment in resistant infections. He has shown experimentally that short, ill-fitting shoes increase remarkably the sweating of the feet and thus cause resistance of eczematoid ringworm to treatment.

Lehmann<sup>6</sup> has called attention to the importance of internal influences, particularly on the dysidrotic types of dermatophytosis. He feels that there is an underlying trophic change in these cases, affected by multiple influences, and governed by the sympathetic nervous system. S. Becker<sup>1</sup> studied this



same background in the class of vesicular eruptions of the hands and feet, often simulating dermatophytosis, that he classifies as dysidrotic eczema. It is common knowledge that focal infection may play an allergic rôle in this type of eruption.

Further consideration must be given to the predisposing factors that govern the localization of eczematoid ringworm largely to the folds of the body; *i.e.*, the axillæ, groin and between the toes. The extensive works of Cornbleet<sup>2</sup> on the sterilization powers of the skin show that this bacteriostatic or fungistatic action is much reduced in such areas of skin folds, and that excessive perspiration still further lowers this bacteriostatic action. Marchionini,<sup>9</sup> Levin and Silvers,<sup>7</sup> and others have shown that the hydrogen-ion concentration in these areas is definitely toward the alkaline side, varying between 6.7 and 7.2, while on the general skin surface it is acid, varying between 3.5 and 5.0. Such an explanation for the selective localization of dermatophytosis is plausible and simple. It offers a rational method for prophylactic and therapeutic management. Cornbleet,<sup>3</sup> however, studied this problem and reaches the conclusion that there is no proof that the self-sterilization powers of the skin are due to surface acid. He claims that any value accruing from the use of acids locally is due to their direct fungicidal activity and that they cannot affect for long the highly buffered hydrogen-ion concentration of the skin unless used in such concentrations as to produce local irritation.

Dermatophytosis is no respecter of hygiene or social status. Seemingly acute attacks are more frequent in those who bathe frequently. In our studies on incidence of epidermophytosis in school children the general index was the same for all schools regardless of communal bathing facilities, but moderate to severe degrees of involvement were more frequent in schools in the better districts with gymnasium facilities. Although the same percentage were infected some factor was at work predisposing to active clinical involvement. The accepted explanation of exposure to more virulent organisms hardly fits with the facts as already emphasized. Some precipitating factor must be present causing activation of dormant infection. I felt at first that this might be due to the added physical activity, or wearing of rubber-soled tennis shoes, affecting the

heat and moisture factor. Any explanation for this beyond exposure, and the known precipitating factors enumerated, would be highly theoretical until more data are acquired. The increased activity at puberty might be explainable on a basis of altered local glandular activity, such as with the sweat glands. It would not explain the varying susceptibility that permits only occasional activity in an individual. A simple explanation would be that there is some local protective substance developed in or on the surface of the skin in the form of a bacteriophage or a fungiphage. In relation to fungi particularly, it would be more reasonable to suspect a toxin or acid developed by their growth that accumulates and acts as an inhibitor along the lines of the hydrogen-ion concentration studies mentioned. We know that the growth of fungi cultures is eventually stopped by the accumulation of auto-intoxicating products of their metabolism. It may seem a far step to the clinical application of this principle to control of pathological fungi on the skin. However, it fits the facts of almost universal infection with active involvement only when precipitating factors are present acting to remove or dilute the protecting substance (sweating, soap and water). As stated, this theory is purely conjectural, but I believe it offers a lead worthy of further investigation.

### Bibliography

1. Becker, S. W.: Dermatoses associated with neuro-circulatory instability. *Arch. Dermat. and Syph.*, 25: 655-682, (Apr.) 1932.
2. Cornbleet, T.: Self sterilizing powers of the skin; body folds. *Arch. Dermat. and Syph.*, 25: 1058-1059, (June) 1932.
3. Cornbleet, T.: Self sterilizing powers of the skin. *Arch. Dermat. and Syph.*, 28:526-531, (Oct.) 1933.
4. Cornbleet, T.: Disorders of the feet as a cause of resistant eczematoid ringworm. *Arch. Dermat. and Syph.*, 29:887-889, (June) 1934.
5. Jamieson, R. C., and McRhea, A.: Recurrence or reinfection in ringworm of the hands and of the feet. *Arch. Dermat. and Syph.*, 25:321-329, (Feb.) 1932.
6. Lehmann, C. F.: Acute vesicular eruptions of the hands and feet. *Arch. Dermat. and Syph.*, 21:449-463, (March) 1930.
7. Levin, O. L., and Silvers, S. H.: Possible Explanation for localization of ringworm infection between the toes. *Arch. Dermat. and Syph.*, 26:466-470, (Sept.) 1932.
8. Lieberthal, D., and Lieberthal, E. R.: Epidermophytosis and flat foot. *Arch. Dermat. and Syph.*, 29:356-357, (March) 1934.
9. Marchioni, A.: Untersuchungen ueber die Wasserstoffionenkonzentration der Haut. *Arch. f. Dermat. u. Syph.*, 158:290, 1929.
10. Pels, I. R., and Schlenger, L.: Incidence of dermatophytosis of the feet with comment on the use of trichophytin. *South. Med. Jour.*, 25:1066-1072, (Oct.) 1932.
11. Shaffer, L. W., and Cary, W. H., Jr.: Incidence and prophylaxis of epidermophytosis in school children. *Jour. Mich. State Med. Soc.*, 32:648-652, (Dec.) 1933.
12. Strickler, A., and McKeever, W. H.: Recurrence of infection of the feet due to ringworm fungus. *Arch. Dermat. and Syph.*, 29:526-528, (Apr.) 1934.
13. White, Cleveland: Dermatophytosis of the extremities associated with peripheral occlusive endarteritis. *Jour. A. M. A.*, 90:1865-1867, (June 9) 1928.

## INFANTILE ECZEMA\*

GEORGE VAN RHEE, M.D.†  
DETROIT, MICHIGAN

Since the beginning of the nineteenth century, the conception of eczema has been changing. Many separate and distinct diseases which had been grouped under this title have gradually been eliminated. In dermatological circles, there have been many divergent opinions on what is eczema. Eczema must be considered as not a distinct pathological entity, but rather as a symptom complex in the skin produced by innumerable causes. It is a form of simple dermatitis which can be produced by ordinary external irritants. By that, I do not mean to infer that every inflammatory process in the skin must be regarded as such. For example, erythema multiforme, seborrheic dermatitis, and other dermatoses are definitely inflammatory processes, but cannot be produced by external irritants. Possibly, if we remember this conception of eczema, we may be better able to grasp its causes and formulate more adequate methods of treatment.

The causes of eczema are many and varied. It is sometimes difficult to evaluate their relative importance; many of them are secondary or contributory. It is known that factors which cause eczema in those predisposed have no effect on the majority of infants.

Eczema in itself is not hereditary, but the tendency to the disorder may be transmitted from parent to child. Stokes<sup>2</sup> states that at times there is a state of inborn tissue lability and hyperirritability that is hereditary in character.

The relation of diet and digestive disturbances to eczema has been studied by many. Towle and Talbot<sup>3</sup> found a frequent association of fats and sugars in the acute exudative types of infantile eczema. White<sup>5</sup> in a study of the stools in infantile eczema found excessive fat and starch, the former in the moist, the latter in the dry type.

Clinically, it is an undisputed fact that fat, over-fed babies with eczema improve when the food intake is reduced. It is also common observation, that if this same child becomes ill with some intercurrent infection, and eats very little, his eczema will improve and even disappear entirely, only to recur when he recovers and resumes his former diet.

Blackfan, Schloss, Walker,<sup>4</sup> Engman<sup>1</sup> and others have shown a high percentage of protein sensitization in infantile eczema by the various cutaneous tests, while Baker reported a negligible incidence in noneczematous children. This conception has not only been the cause of much enthusiasm and optimism, but also resulted in much confusion and contradiction. Some infants are sensitive to foods not included in their diet. This contradiction can be explained in breast fed infants when hypersensitiveness might be transmitted through the mother's milk, but certainly not in artificially fed babies.

Particularly troublesome are the cases that react positively to several foods. When placed on the proper diet, the child improves, the eczema disappears, and may remain well for a month or more; then it recurs and the infant will be sensitive to every protein in the diet and negative to those which gave a prompt response a month ago. This condition is difficult to explain, unless the cutaneous tests are only an index to allergy of the skin, and have no bearing on the etiologic factors in eczema.

The different technics used in determining the cutaneous reactions are:

1. *Dermal or Scratch Method:* A superficial linear scratch  $\frac{1}{8}$  inch (0.32 cm.) in length is made in the skin without drawing blood. The suspected material, usually in powder form, is moistened with tenth normal sodium hydroxide or physiological saline if the skin is very sensitive and gently rubbed in the scratch. The positive reaction consists of an urticarial wheal on an erythematous base and is usually obtained in from ten to thirty minutes. The alkali alone may be used as a control.

2. *Intradermal Method:* A small quan-

\*Read before the Section on Pediatrics, Michigan State Medical Society, at Battle Creek, September 12 and 13, 1934.

†Dr. George Van Rhee is a graduate, University of Michigan, 1915. He served his internship at Harper Hospital, Detroit, Michigan, 1915-16. He is Associate Professor of Dermatology, Wayne University, College of Medicine, Associate Attending Dermatologist, Receiving Hospital, and Physician, Out-patient Department of Dermatology, Harper Hospital.



tity of the proper dilution of an extract of protein is injected between the layers of the skin. The positive reaction is also an urticarial wheal on an erythematous base. This test is frequently more reliable than the scratch method. If it is done properly, it is free from danger.

3. *Indirect or Passive Transfer Test:* One-hundredth of a cubic centimeter of the sterile serum of the patient is injected into the skin of a nonallergic patient at several sites, which are tested dermally or intradermally forty-eight hours later. Tests with the same substances are made in the control area, a short distance from the prepared sites. Reactions are recorded in the same manner as in the direct tests. This test is of value in children who suffer from generalized eruptions, and present no healthy skin for direct testing.

4. *Patch Test:* The suspected substance is applied to the skin and allowed to remain for forty-eight hours. If the substance is an insoluble solid it is crushed, covered with gauze or blotting paper moistened with buffer saline and held in place by a square of adhesive. If the substance is a liquid the blotting paper is simply moistened and covered as before. A positive test may be obtained in a few hours or several days. The concentration of the substance should not be an irritant to the normal skin. The test is positive if there is a patch of dermatitis at the site, or a flare-up of the existing dermatitis in distant parts. This test is of particular value in contact dermatitis such as feathers, clothing, furs, cosmetics, soap, animal danders.

A positive reaction by any of these methods is not always significant of the proper diagnosis, or the etiologic factor producing eczema. We recently treated a child 12 years of age who had very typical lesions of pityriasis rosea on the chest and trunk. This condition had been diagnosed as an eczema by another physician simply because the scratch test gave positive reactions to certain food proteins.

Indiscriminate subjection of children with eczema to a large number of skin tests is not justified. Cutaneous tests serve as aids in determining the etiology and diagnosis. We are still of the opinion that a detailed history together with a careful appraisal of the dermatologic lesions is in most cases of greater value in arriving at the cause and proper diagnosis.

The chief offending proteins are egg white, cow's milk, breast milk, oats, wheat, barley. In older children positive reactions to cod liver oil and onions were obtained, when they were removed from the diet, the therapeutic response was good.

External irritants may cause infantile eczema, but probably not as frequently as in adults. Due to the peculiar sensitiveness of the cutaneous vasomotor mechanism, the skin of infants is readily affected by exposure to light, to cold and other climatic influences. Irritation from soap and water, furs, feather pillows, toilet articles which contain orris root frequently cause or aggravate an eczematous conditions. When fabrics such as silk and wool cause irritation, cotton or linen mesh underwear should be substituted.

Certain cases of infantile eczema, especially those of the intertriginous type, fungi, such as monila, may be a causative factor. Then again, we see rather dry, oval, rounded, slightly scaly lesions, not of as deep color as the ordinary eczema, not vesiculopustular and rather sharply circumscribed in outline, which we believe are due to fungi.

In fat babies, and also marasmic children, where the hygiene is poor, maceration, friction, decomposition, products of cutaneous secretions, urine and feces frequently produce an acute dermatitis known as eczema intertrigo. Nasal and aural discharges are responsible for an infected eczema of the upper lip, ears and neck. If there is no discharge from the ears, pediculosis capitis may produce a similar type of irritation.

The pathogenesis of eczema in infancy and children does not differ from that of eczema in an adult. The child frequently develops a red congested condition over the flush areas of the cheeks, which becomes swollen and somewhat infiltrated. In a little more intense stage it shows papules and vesicles surrounded by an erythematous halo. It is now an acute dermatitis. The surface weeps profusely, the serum dries into crusts, which pile up one over the other and increase the congestion. At this stage the patches may be secondarily infected, discharge quantities of pus which dries on the surface in yellowish crusts. This is known as an impetiginized eczema. Eczema intertrigo has already been described.

Besides the cheeks, the eruption appears on the chin, forehead, scalp, the folds behind

the ears, and the neck. At the same time it is likely to spread to the wrists, the legs, buttocks, and the inguinal folds. Between these sites small discrete patches are frequently scattered over the trunk and extremities.

In older children we may find the same diffuse, or circumscribed patches in the acute stage of congestion, followed by oozing and crusting papulo vesicles, or a sub-acute stage of dull redness, moderate infiltration; still later a more chronic stage with lichenification which is a dull leather-like thickening of the skin due to an exaggeration of the normal skin lines from persistent scratching and rubbing. The areas most frequently involved are the nape of the neck, cubital and popliteal spaces and the upper chest and back.

In considering eczema of infants and children, dermatoses which are frequently attributed to it must be excluded. Scabies, pediculosis corporis and pubis, impetigo are often followed by an eczematoid dermatitis. In scabies, the lesions are more discrete and less apt to form patches than in eczema. The itching is more severe at night, while in eczema it is paroxysmal. The lesions are found chiefly on the wrists, hands, axillæ, umbilicus and the buttocks, the shaft of the penis in male children, and never on the face except in nurslings.

Impetiginized eczema is due to the implantation of staphylococci on an eczematous area, while an impetigo contagiosa is a similar process developing spontaneously. Both conditions are very common, and produce thick yellow crusting on an inflammatory base.

Chronic symmetrical impetigo is frequently regarded as an eczema but should be excluded. It occurs as persistently red oozing patches of dermatitis with hard, yellow, tenacious crusts. The lesions are distributed symmetrically over the face and extremities, especially over the arms.

Acute and chronic dermatitis venenata, which results from contact with chemicals, plants and drugs, often present an eczematoid appearance, and may be mistaken for eczema. In many cases the two affections are indistinguishable. A history of the external application of the irritant is important. Frequently the area of the dermatitis is limited to the area of the application of the irritating substance. The onset is sudden and the inflammatory process entirely

subsides on withdrawal of the irritant.

Seborrheic dermatitis is frequently mistaken for eczema. It usually affects the eyelids, the post-auricular spaces, scalp, face, upper chest, as well as the flexures. The dull red color, greasy scaling instead of crusting differentiate it from eczema. The course is chronic, the infiltration and oozing much less than in eczema. Eczema may be superimposed on a seborrhea.

Napkin eruption of the buttocks is an erythematous eruption which at a later stage becomes studded with erosive papules which are covered with shiny crusts. It is due to ammonical urine and should not be confused with eczema.

Leiner described a dermatitis under the title of erythroderma desquamativa or universal dermatitis of children of the breast. In some respects it resembles Ritter's disease while in others that of seborrheic dermatitis, and should never be confused with eczema. In the early stages, the skin becomes intensely red and covered with grayish white scales, which may become lustrous and easily detached in large areas as in scarlet fever, or they may be fine and branny. The eruption is usually diffuse over the trunk, but occurs in areas on the hands and feet. The scalp and eyebrows are covered with yellow crusts and scales. The nails are dystrophic, the nail bed frequently hyperkeratotic. The glands are swollen, but never break down. The general condition of the infant is usually poor; diarrhea is very common. In fatal cases, the intestinal disorder increases and the cutaneous manifestations become exaggerated. The skin becomes dry, parchment-like, particularly about the mouth.

In the treatment of any type of eczema there are certain underlying principles which should be followed. All sources of local irritation should be removed before topical applications are considered. The child should be kept out of the sun, wind and overheated rooms. During the winter months, the child's room should be heated and the windows open. The clothing should not be coarse nor irritating, and the child should not be covered too warmly. Soap and water should not be used on the eczematized areas. Olive oil, almond oil, cottonseed oil or cold cream may be used for cleansing purposes.

Diapers should be changed as soon as possible after being soiled. They should



be carefully washed with a mild soap, and thoroughly rinsed in a four per cent boric acid solution. Rubber pants should never be worn over the diapers by a child with an eczematous tendency. In some cases, hospitalization is desirable, provided the child can be isolated, as they are very susceptible to the intercurrent infections. Every infant with a severe eczema should be looked upon as a sick child, and should be put to bed and kept there until the eruption subsides. The physician should see him often and should pay as much attention to the whole situation as he would to one which is more dangerous to health.

The treatment of infantile eczema may be conveniently divided into local and internal. Local treatment alone will not cure most children with eczema. It must be combined with dietary, allergic and other procedures. Local treatment requires a knowledge of the reaction of different types of inflamed skins to various remedies. Local medication should be mild at first and should not be frequently changed in stubborn cases. A small number of remedies carefully handled will cure most patients.

In the case of acute vesicular eczema, if there is an acute inflammatory reaction with edema and oozing, we use moist dressings of a saturated solution of boric acid, or a one-half of one per cent solution of aluminum subacetate. These dressings should be changed three times a day, and these applications should be used for one or two days until the acute inflammatory reaction disappears. If there is an acute inflammatory reaction with bright redness, and no edema or oozing, a two per cent zinc oxide, calamine or a zinc oxide tragacanth lotion is applied.

After the preliminary treatment has been carried out, pastes and ointments are applied, such as follows:

- |                           |          |
|---------------------------|----------|
| 1. Crude coal tar         | 2 to 1.5 |
| Zinc Oxide                | 2.0      |
| P. Amyli                  | 15.0     |
| Petrolat alba qs. ad      | 30.0     |
| Sig. apply locally B.I.D. |          |
| 2. Zinc oxide             | 15.0     |
| Pulv. Amyli               | 25.0     |
| Pix. Liq                  | .6       |
| Phenol                    | .6       |
| Petrolat                  | 32.0     |
| Sig. apply locally B.I.D. |          |
| 3. Nafthalan              | 2.4.     |
| Zinc oxide                | 8.0      |
| P. Amyli                  | 8.0      |
| Petrolat                  | 30.0     |
| Apply locally B.I.D.      |          |

These ointments are removed twice daily with olive oil and are never used under a bandage. These same preparations may be used in the subacute and chronic stages. Small isolated patches of eczema may be painted with undiluted crude coal tar.

When the face and scalp are covered with thick crusts, olive oil or cottonseed oil packs are applied for six to 12 hours and then the ointments 1, 2 or 3 are applied, except that on the scalp we use a 1 to 3 per cent sulphur in petrolatum ointment.

In eczema with a superimposed impetigo, the crusts are removed with boric acid compresses followed by the application of an ointment of one per cent ammoniated or yellow oxide of mercury in Lassar's paste. If coryza, otitis media, scabies should be the underlying cause, these should be eliminated and the eczema will clear with a small amount of local treatment.

The treatment of dermatitis of the intertrigo type frequently gives trouble. Monila infections and lues must be excluded. The parts are cleansed thoroughly. The diapers should be washed thoroughly. No rubber pants should be worn. Moist compresses of aluminum acetate one-fourth to one-half per cent are of value. We have had very good success with an oily lotion consisting of equal parts of olive oil and milk of magnesia. Dusting powders consisting of equal parts of purified talc, cornstarch, zinc oxide, and a small quantity of camphor are very soothing.

The roentgen ray has proved a valuable adjunct in the treatment of infantile eczema. Often when ointments, lotions and dietetic regulations have failed, a few short exposures have exerted a marked beneficial influence in our hands. Very small doses are given because of the necessity at times to irradiate large surfaces. Again, it is unsafe to administer large doses of x-ray to infants and children. We never give more than one-half skin unit which is equivalent to 175 R units a month. The exposures were given at weekly intervals in subfractional doses. Practically all of our cases improved although recurrences do occur. Some observers report success in irradiation of the thymus; we have had no experience.

The results in light therapy have not been very encouraging in our hands. We have noted not only very little improvement, but rather increased irritation. It should never

be used during the acute stage. It may be of some value in irradiating the entire body to stimulate the general body economy.

Diet is a very important factor in the treatment of infantile eczema. We are cognizant of the fact that, as in the etiology of eczema, the feeding of children is subject to a wide divergence of opinion, and should be left to the pediatrician.

The ideal treatment in eczema might be the removal of milk from the diet, but on account of the age of the child this is usually impossible. However, the milk can be modified if the child is artificially fed. Boiling the milk for thirty minutes is often of value.

If the child is breast fed, the mother's diet should be carefully studied, and the time and duration of nursing regulated. Parents frequently inquire whether the child should be weaned. In our opinion weaning should be the last resort.

Drugs play a very small role in the treatment of eczema. Children with eczema are abnormal, usually below par and subject to

many types of intercurrent infections, anemia, malnutrition. For this reason, we prescribe cod liver oil and the syrups of the iodide of iron. In acidosis, alkalis and calcium lactate are of benefit. Children from two to twelve years of age may have hypothyroidism and thyroid extract is of value.

Obstinate cases of eczema which do not respond to any type of treatment may derive benefit from auto-hemotherapy and foreign protein injections.

The subject of eczema is a very comprehensive one. We have made an effort to briefly review its etiology, diagnosis and treatment, and to show that a proper evaluation of these facts may aid in determining the cause, and also formulate more adequate methods of treatment.

### References

1. Engman: Arch. Derm. and Syph., 3:223, 1921.
2. Stokes, J. H.: Jour. A. M. A., 90:1127, 1932.
3. Towle and Talbot: Am. Jour. Dis. Child., 10:219, 1912.
4. Walker: Jour. A. M. A., 70:897, 1918.
5. White, J.: Cutan. Dis., 34:37, 1916.

## SKIN DISEASES IN INDUSTRY\*

ARTHUR E. SCHILLER, M.D.†  
DETROIT, MICHIGAN

Among the many problems that a depression world has presented to its weary people, the one of maintaining a state of physical well-being sufficient to hold a precious income-producing job seems to be paramount. It offers a problem both to the individual and to his physician and nowhere is the anxiety more manifest than in the industrial world. But long before this period of industrial unrest, industrial physicians, factory executives, and dermatologists showed an intense interest in the subject of skin diseases of an industrial character. If, as Overton states, "The workmen's compensation act returns for 1927 showed that, for factories more certificates of disablement were issued for skin affections than for any other compensable condition," then that interest can readily be appreciated. I doubt, however, that the man in general practice has given the attention and thought to this subject that his position on the firing line requires. It is to bring to his attention the importance of a closer study of industrial dermatitis that this review is attempted.

Perhaps a brief review of the literature may give you an opportunity to follow this subject more closely. In 1700, Ramazzini, the father of industrial hygiene, described the dermatoses of washwomen, bakers, farmers, and others, and, in 1775, Percival Potts' work on chimney-sweep cancer appeared. In the German literature Cless mentioned the subject in 1842, and in 1896 C. J. White, in a paper entitled "Notes on Dermatitis Venenata," called attention to the need for investigating all cases of this type "especially in the arts." At the beginning of the twentieth century, interest began to be widespread and, in the last twenty years, there have been a large number of articles of increasing importance by R. Prosser White, O'Donovan Gardiner, Ull-

\*Read before the Section on Dermatology, 114th Annual Meeting of the Michigan State Medical Society held at Battle Creek, September 12 and 13, 1934.

†Dr. Schiller is a graduate of Detroit College of Medicine and Surgery, 1914. He pursued post-graduate work in dermatology at the University of Michigan; is a Diplomate of the American Board of Dermatology and Syphilology, 1935, and has been Attending Dermatologist, The Grace Hospital, since 1925. His practice is limited to dermatology and syphilology.



mann, Oppenheim and Rille, Pusey, Blaine, Schamberg, Fordyce, Cole, Oliver, Foerster, and others.

### Incidence

According to Knowles, industrial dermatoses constitute one-sixth of the total number of diseases of the skin. Hazen's opinion is that they constitute one-fifth. Oppenheim gives the number as two-ninths and Prosser White as one-fourth, Fordyce as one-fiftieth, Guy Lane as one-tenth. C. J. White recorded 120 trades and occupations as productive of skin disorders. It is observed from the above statistics that the incidence varies with the location of the report, the reporting physician, and the type of cases seen, and the percentage of cases is probably larger than is generally realized.

Gardiner, in his interesting survey of "Occupational Dermatitis," from his department in 1919, of 1,194 cases, stated that 68 per cent of all dermatitis or eczema cases were due to occupations, and presented the following statistics:

<i>Occupations</i>	<i>Cases</i>
Housewives .....	254
General laborers .....	59
Chemical workers .....	25
Rubber workers .....	24
Iron and steel workers.....	36
Colliery workers .....	32
Mill workers .....	26
Bakers .....	16
Printers .....	12
Wood workers .....	13
Tailors .....	8
Painters and French polishers.....	14
Chocolate workers .....	6
Munition workers .....	4
Agricultural workers .....	14
Upholsterers .....	3
Leather workers .....	6
Linoleum .....	4
Actors .....	3
Butchers .....	12
General .....	51

### Sites of Eruption

The following statistics have been carefully drawn up, noted and analyzed, because, although one was familiar with the common areas affected, the comparative frequency of each area and the line of spread remained matters for consideration.

<i>Sites</i>	<i>Cases</i>	<i>Per cent</i>
Wide-spread .....	71	11.4
Arm, excluding the hand.....	273	44
Arms alone affected.....	90	14.4
Arms indefinitely (indefinitely used to denote all aspects).....	185	29.7
accompanied (another part or parts involved) .....	135	21.5
unaccompanied .....	50	8

<i>Sites</i>	<i>Cases</i>	<i>Per cent</i>
Arms (extensor aspect).....	56	9
accompanied .....	26	4.1
unaccompanied .....	30	5
(flexor aspect) .....	32	5.1
accompanied .....	21	3.3
unaccompanied .....	10	1.6
Lower extremity .....	79	9.8
Legs alone affected.....	22	3.5
Legs indefinitely .....	62	9.9
accompanied .....	45	7.2
unaccompanied .....	17	2.7
Legs (extensor aspect).....	8	1.2
accompanied .....	7	1.1
unaccompanied .....	1	.1
(flexor aspect) .....	9	1.4
accompanied .....	5	.8
unaccompanied .....	4	.6
Hands .....	370	59.5
Hands alone affected.....	245	39.4
Hands indefinitely .....	196	31.5
accompanied .....	70	11.1
unaccompanied .....	126	20.2
Hands (extensor aspect).....	120	20
accompanied .....	48	7.7
unaccompanied .....	72	11.5
(flexor aspect) .....	54	8.6
accompanied .....	7	1.1
unaccompanied .....	48	7.7
Face and neck.....	146	23.5
accompanied .....	113	18.1
unaccompanied .....	33	5.3
Feet .....	8	1.2
accompanied .....	4	.6
unaccompanied .....	4	.6

A consideration of the statistics enclosed shows, as naturally would be expected, a preponderance on the hands, in 370 cases; the arms come next in 273 cases, then the face and neck in 146 cases, and the lower extremities in seventy-nine cases.

The hands are more involved in work, and these, with the arms and face, are the most exposed, being generally devoid of covering.

A further consideration of the numbers involving the hands reveals the fact that of the 370 cases where that part of the body was affected, in 245 it had spread no further. Provided with thickened epidermis in the palms, it is readily understood why 120 cases affect the extensor aspects and only fifty-four the flexor aspects. When this occurs it is generally observed that the spread is mostly between and round the fingers (the area involved most commonly in cheiro-pompholyx) and that the palms remain completely free.

When the arms show manifestations of external irritation, the proportion of cases remaining localized is about the same as in the hands, and again while the extensor aspect is most commonly affected, the proportion of fifty-six to thirty-two of the

flexor aspect, as in the hands, the great majority, 185, spread to both aspects.

On the legs, where the frequency is less, the proportions are almost identical.

#### *Age Incidence*

<i>Ages</i>	<i>Cases</i>	<i>Per cent</i>
Under 20.....	86.....	13.8
20 to 30.....	180.....	28.9
30 to 40.....	127.....	20.4
40 to 60.....	187.....	30.1
60 to 70.....	34.....	5.6
Over 70.....	7.....	1.1

#### **Duration of the Attack**

The duration of the attack is sometimes very vaguely given, but details, so far as they could be obtained, are recorded in 594 cases:

<i>Duration</i>	<i>Cases</i>	<i>Per cent</i>
A week and under.....	64.....	10.7
1 to 4 weeks.....	150.....	25.2
1 to 2 months.....	101.....	17
2 to 6 months.....	113.....	19
6 months to 1 year.....	60.....	10.1
1 to 2 years.....	47.....	7.9
2 years or more.....	59.....	9.9

<i>Preceding skin condition</i>	<i>Cases</i>	<i>Per cent</i>
Seborrhea .....	175.....	28.1
Hyperidrosis .....	168.....	27
Pediculosis .....	17.....	2.7
Syphilis .....	5.....	.8
Varicosity .....	3.....	.4
Xeroderma .....	8.....	1.2
Psoriasis .....	1.....	.1
Chilblains .....	3.....	.4
Scabies .....	4.....	.6
Acne .....	3.....	.4
Urticaria .....	3.....	.4
Furunculosis .....	1.....	.1
Impetigo .....	1.....	.1
Senile .....	2.....	.3
Septic sore.....	1.....	.1

#### **Preceding Skin Condition**

Regarding preceding skin conditions 63.6 per cent were, on examination, found to have definite manifestations of these.

Seborrhea takes precedence in 28 per cent of the total cases, and its significance can scarcely be over-stated. The name is an unfortunate one, but it is a recognized entity and implies a faulty excretion of the natural oil of the skin. The sebum in a healthy skin is neither too fluid nor too dry and renders the skin pliable, while also protecting it from irritation. Experiment has revealed the fact that the horny layer is especially soluble in alkali and sebum naturally will counteract its influence. If the sebum is too thick it will accumulate in parts and other parts will be devoid of it. If too thin it probably does not provide a proper lubrication. There also may be some chemical change in the sebum of an un-

healthy skin, which renders it a less satisfactory lubricant to the epithelium. Particularly on the hair does one notice the effect of seborrhea, where the lusterless appearance and the lack of resiliency is apparent to the most casual observer. On the rest of the skin it will undoubtedly have a similar effect, although on the finer lanugo hairs it is not so noticeable. While present in most parts of the body the sebaceous and sweat glands in certain areas are more numerous or larger. On the face and neck they are both numerous and large, and there we find 146 cases.

Excessive sweating is noted in 168 cases (27 per cent). This, in many instances, is associated with some debility, while in others it is the result of working with hot materials. In any event the effect is to produce a sodden epidermis, and a sodden epidermis is more liable to break down when exposed to irritation. A familiar example of this may be seen in the person who rows in a boat with dry hands and suffers little inconvenience except cornification after frequent exercise, whilst another who, perhaps, has been fishing and got his hands moist will, frequently, be found to develop blisters after rowing.

Gardiner summarizes his findings as follows:

1. There are definite occupations which are liable to cause damage to the skin.
2. Some irritants act mechanically and others act chemically.
3. Alterations in materials used may cause the development of a dermatitis in the case of a worker employed for many years at the same occupation.
4. That a previous dermatitis may subsequently render a worker susceptible to an irritant which he or she could previously resist.
5. While it is characteristic of occupation dermatitis that it occurs on the parts exposed to the irritant, the majority of cases occur on the hands, next in order of frequency arms, face, neck and lower extremities.
6. That spread may be from the irritant itself or may be due to secondary infection.
7. That the attacks may commence in youth, but, if not, are more common over forty.
8. That recurrences are very common. The recurrent type is an exceedingly common one.
9. That in the case of a powerful irritant dermatitis may ensue within a day or two, that where there is hyperidrosis it is likely to appear within a few weeks; that where there is seborrhea there is a more gradual breakdown which may be months or years, that a large number occur after many years, and that the largest number occur after many years due to various causes.
10. That illness, the climacteric and old age are important points in the causation of an outbreak.
11. That local injury is also an important factor.



12. That the condition of the skin should be a matter of close examination in all applicants for occupations which incur liability to dermatitis.

An opportunity to check cases in the tack industry in Boston was afforded the author and the following report may be of interest:

<i>Age</i>	<i>Incidence</i>	<i>Duration of Disease</i>	<i>Worked at same occupation</i>
17 yrs.—66 yrs.		1 mo.—12 yrs.	6 mos.—33 yrs.
Average 41 yrs.		Average 5 yrs.	Average 13 yrs.
<i>Incidence of Parasitic Involvement by Culture</i>		<i>Positive Skin Tests to Lime</i>	
Feet .....	65%	80%	
Hands .....	12%		
<i>Areas Involved</i>		<i>Types of Lesions</i>	
Hands .....	65%	Vesicles	
Forearms .....	35%	Pustules	
Fingers .....	54%	Comedones	
Wrists .....	24%	Cracking	
Neck .....	10%	Lichenification	
Feet .....	5%	Desquamation	
Face .....	10%		
Elbows .....	20%		
Legs .....	5%		

Etiology

Industrial dermatitis may be produced by irritation of any origin. Prosser White, in a rather lengthy chapter, summarizes the etiology under:

- 1. Mechanical, or physical.
- 2. Detergents and keratin solvents.
- 3. Desiccators and hygroscopic agents.
- 4. Electrolytic agents.
- 5. Protein precipitants.
- 6. Oxidizers.
- 7. Reducers.
- 8. Toxic agents.
- 9. Keratogenic.
- 10. Biotic agents.

It seems to me that this etiologic classification is somewhat too cumbersome for everyday use and Lane's idea in classifying the conditions as an industrial dermatitis, with the probable cause following it, is much more simple. Overton feels that "among the causative agents of dermatitis alkalies have held first place for the last three years." This bears out the acknowledged fact that the horn-cells of the epidermis are far more tolerant of acids, and in stronger solutions, than of alkalies. Alkalies have a macerating action on the keratin of the skin, and the horn-cells, the function of which is to protect the more delicate structures beneath them, become disorganized, separate, and thus allow the irritant to penetrate the first line of defense. Other important causes of industrial dermatitis

are de-greasing agents, such as turpentine and substitutes, paraffin, petrol and naphtha. Sugar was held responsible for 5 to 7 per cent of the cases for the last four years, while dough, suggested as the cause of baker's dermatitis, contributed from 4 to 11 per cent of the voluntarily reported cases for this period.

Dyes, particularly the sulphur and basic, seem to produce about the same number of cases as does sugar, but there are no figures to compare the respective personnel on contact with these irritants. "Accelerators"—substances introduced into rubber-mixings to shorten the time required for vulcanization, e.g. a compound of formaldehyde and para-aminodimethyl-anilin and hexamethyl tetramine, to quote two—are responsible for folliculitis in the presence of heat and friction. Mixers, who may handle many accelerators without special precautions, seem comparatively free; heat and friction are less apparent in this process. Phosphoric acid, in the sweat, with hexamethyl tetramine, is said to form acetaldehyde, which in turn breaks down in the presence of oxygen to produce formic acid.

De-greasing agents, such as alkalies, turpentine, paraffin, etc., claim their victims, but over-lubrication of the skin by oil, together with other factors, annually swells the number of cases. The other factors here are (1) minute particles of filings, i.e. in engineering shops, mixed with the oil and causing injury, micro- or macroscopic in degree, followed by (2) infections; (3) absence of cleanliness of person and clothing, in the instance of a sebaceously active type of person, the male adolescent, who predominates in engineering shops.

On the subject of recurrent attacks of dermatitis, wood-workers seem to be those for whom a return to the original occupation after an attack of dermatitis is most likely to prove unfortunate, whilst this risk to dyers and bleachers, bakers, with pastry-cooks, rubber workers (generally those exposed to "accelerators"), chemical and sugar confectionery workers, in this order, seems to be considerable. It is interesting to note, however, that the industries in which recurrent attacks are frequent coincide with those which would be held responsible on the grounds of other evidence.

The dyeing industry, together with calico

bleaching and printing, is well known to be responsible for many cases of trade dermatitis annually. What seemed likely to be the cause of so much dermatitis was the almost universal use of a mixture of bleaching powder and soda ash to remove color staining from the skin. This "chemie" as it is called, might have been left on the skin after it had achieved its decolorizing object. It is worthy of emphasis that an enormous number of cases of trade dermatitis are caused annually, not by the substances encountered at work, but by their removal by methods harmful to the skin.

Painters acquire skin-disease, not from their paints, but from the use of turpentine or its substitutes. Alkalies in some form or other are always appearing as cleansers. Paraffin to remove grease from the skin takes its toll, together with other de-greasing agents, such as turpentine, petrol, naphtha, acetone and substitutes, methylated spirit, et cetera.

Dyson discusses those cases which are indistinguishable from cases of dermatitis commonly described as eczema. Such cases are commonly seen in bleachers, dye workers, chemical workers, plasterers, rubber workers, french-polishers and hairdressers. He recognizes no difference between an eczematous occupational dermatitis and eczema. Any condition which predisposes to eczema will also predispose to occupational dermatitis. Hyperhydrosis is a common factor in its production and xerodermatous and ichthyotic subjects are more susceptible than others. Idiosyncrasy is mentioned; and the author discusses the subject of sensitization and states that prolonged or repeated attacks of dermatitis may produce a general sensitization which has many of the characters of any "anaphylactic state." Seborrhea and secondary pyogenic infections, in his experience, favor the development of a general sensitization, although it may develop without the presence of any of these factors.

### Predisposing Causes

Pusey feel that "the predisposing causes are the factors in the personal equation which make the skin of varying resistance in different individuals, and these factors are many:

The protection afforded by the skin varies greatly in different individuals and under different conditions. The youthful

skin is more delicate than that of the adult. The skin also has senile changes, which may occur prematurely without reference to other senile changes, that lower its resistance. The woman's skin approximates the youthful skin and is more sensitive than the man's skin.

Local conditions in the skin, as for example, vascular disturbances, may weaken its resistance; the skin in which the circulation is poor is of increased vulnerability. The skin which normally sweats profusely is more resistant to some external irritating influences than the dryer skin, but is more vulnerable to other external injurious influences. Previous injuries to the skin, as, for example, many reactions from external irritants, may permanently damage its protective quality. The greasy skin of the negro, Mexican, and the Indian is tough and can endure exposure to many insults that damage the white skin. Individuals show even greater variation. At one extreme we have the normally tough skin, the resistance of which is remarkable; at the other, we find the individual whose skin is so sensitive that blisters and ulcers are produced by slight blows and pressures, which are harmless to the normal individual.

We also have variable personal susceptibility to irritants. What is one's skin poison may be harmless to another. Everyone knows that poison ivy, for example, is not poison at all to many persons, while in others it produces an inflammation of the skin of extremest severity. We see manifestations of this personal susceptibility to particular irritants constantly in industrial dermatoses. Often, after repeated exposure, the skin will acquire resistance to an irritant. Unfortunately, also, it may become sensitized after repeated exposure, so that we not infrequently see persons suffering from inflammation of the skin from irritants which formerly were harmless to them. These factors of varying susceptibility come constantly into play in industrial dermatoses; and they must be borne in mind as an essential part of the problem whenever we are considering the exciting causes of such conditions."

The exciting factors of industrial skin diseases may be included in the following classes: (1) heat; (2) cold; (3) weather; (4) posture, friction, pressure; (5) para-



sites; (6) infections; (7) mechanical and chemical irritants.

Foerster states that general predisposing factors include the sensitization caused by allergic or anaphylactic conditions caused by foods and other agents, toxins, focal infections and constitutional disorders and unfavorable and unhygienic conditions in the home and at work.

Under exciting causes he groups:

1. Physical injuries resulting from mechanical, thermal and actinic agencies.
2. Injuries of chemical origin.
3. Infections and parasitic agents.

I would refer you to his excellent article in its entirety, for a complete study of this subject.

### Diagnosis of Industrial Dermatitis

The examination of a fairly large number of cases would seem to indicate that there is nothing particularly characteristic about the inflammatory process produced by the irritants of industry to differentiate them from irritations of a different source, for in industry all the basic characteristics of an inflammatory process, in addition to whatever secondary involvement may have been added, are readily found. Again, it is extremely possible that a variety of manifestations may be produced by a single irritant and that a number of varied irritants produce the same lesion. As may be seen from the various charts shown, lesions may develop at varying times after contact—in the one instance lesions developing at once, and, in the extreme, many years following constant irritation. The areas involved would seem to be those in immediate contact with the toxic materials, the hands, extensor surface of the extremities, the face, and the neck, being the areas most frequently involved. Eruption may vary from a morbiliform to an erysipeloid eruption. Papules, vesicles, pustules, and all the consecutive lesions may be present either at once or in succession, and it is only by a process of careful elimination study of the history, patch tests, and other careful measures that definite diagnosis of industrial dermatitis may be arrived at. However, there is usually a great deal of presumptive evidence and this must form the working basis for an attempt at a diagnosis.

### Prophylaxis and Treatment

The most practicable way of handling the problem in certain industries is by the selection of workers who can endure, without damage to the skin, the amount of external irritants which are necessarily involved in the occupation. Some men cannot work at all where others can work without damage. My impression is that nothing is gained by trying to keep these susceptible men at work which produces skin trouble. The best thing is for such men to shift their occupation, if possible, when the inability to endure the irritants involved is discovered. When old workers acquire a susceptibility, shifting of occupation may cause heavy sacrifices which they desire to escape. In such cases, unusual precautions and medical care may enable them to continue. But it is usually only at the expense of discomfort and periods of disability.

The prophylactic measures suggested by McConnell seem to me so important that I am giving them in full.

1. On entering the plant each workman should wash the hands and forearms thoroughly with warm water, using a sawdust and liquid-soap preparation to assist the cleansing process.
2. After drying the skin with an individual towel he should apply either lanolin alone or lanolin and castor oil, and rub it well into the skin.
3. A foreman should inspect each worker as he enters the workshop, to insure the efficient carrying out of the foregoing.
4. At noon, before eating luncheon, the workmen should wash the hands and forearms with warm water and soap.
5. On returning to work they should repeat the morning schedule of washing and applying the lanolin preparation.
6. At the end of the workday they should wash the hands and arms with warm water and soap and dry them. No emollients should be applied unless actual abrasions are present, in which event proper dressings should be applied. The lesions on the thighs can best be prevented by wearing aprons impenetrable to oils.

The treatment of industrial dermatoses is largely a matter of adequate prophylaxis and appropriate immediate treatment. The large sums spent on compensation for disability have emphasized the hazards of disease or injury, more particularly in certain industries, and have forced the introduction of protective devices and prophylactic measures. Prophylaxis necessitates improved working conditions, medical inspection and education of the employee in personal hygiene. The modern factory, with its adequate provision for ample working space,

sunlight, fresh air, proper washing and toilet facilities and short hours is a boon to the workman, whereas unhygienic working conditions are often directly responsible for a high incidence of industrial disease. The replacement of methods of work which necessitated direct contact of the hands with irritant materials by mechanical methods of manipulation and manufacture, brought on by large scale production, is an advance in prophylaxis.

In some industries a frequent thorough cleansing with soap and water is advised, and in some factories it is made compulsory. Bathing facilities are provided, and bathing is encouraged by including it in the working schedule. The frequent changing of dust-laden and oil-soaked clothing is as important as washing. In particularly hazardous work, the temporary shifting of workmen to other jobs should be a routine measure.

Page and Bushnell considered the most effective prevention of dermatitis and folliculitis from oil and grease to be cleanliness on the part of the worker and the avoidance of a promiscuous interchange of waste and rags used for wiping the hands. They consider that daily filtration and sterilization of used oil are helpful, the addition of germicides useless and the removal of

workers with skin diseases the most important factor in prophylaxis.

Routine medical inspection of applicants and employees should permit, to some extent, the elimination of those physically unfit for particular types of work, and the building up of an immune or resistant personnel, and should result in the early detection and treatment of predisposing and exciting factors. Persons with hyperidrosis, seborrhea, and xeroderma, and those with active cutaneous disease or history of such disease should be eliminated from industries in which the liability to dermatoses is high. Evidence of impaired health, as an indication of predisposition to injury or disease, should receive attention, and workers showing intolerance to work or materials should be removed from such work at the first onset of symptoms.

In all industries, compulsory immediate notification concerning minor injuries and eruptions, by permitting appropriate first aid treatment, will do much toward the elimination of disabling infections and dermatoses. Roller towels and common drinking cups should be prohibited. Bland protective ointments, gloves and other protective measures during work, and a germicidal and neutralizing solution after work, should be employed as a routine when their value has been proved.

### THE VALUE OF THE POTTER TYPE OF INTERNAL PODALIC VERSION IN THE MANAGEMENT OF PERSISTENT POSTERIOR OCCIPUT CASES\*

M. M. JONES, M.D.†

PONTIAC, MICHIGAN

To anyone doing obstetrics, the posterior occiput case has always been sort of a "bug-bear." There are several complications in the obstetrical field, but I think these posterior occiput cases cause the obstetrician many anxious moments. It is a condition fraught with great anxiety, a real danger to fetus and mother, and one requiring considerable judgment and skill in its management. We often wonder *why*, in an apparently normal case, the patient has a prolonged and tiresome labor.

The persistent posterior occiput case is not a rare one when you recall that the most common cephalic presentation is the left occipito-anterior, and second in frequency

comes the right occipito-posterior. In normal labor nature provides that the fetal head shall present its smallest diameter (the sub-occipito-bregmatic). The head enters the pelvis with the occiput obliquely anterior and as labor progresses, the occiput gradually rotates forward until during the

\*Presented before the section on Obstetrics and Gynecology at the 114th annual meeting of the Michigan State Medical Society held at Battle Creek, September 12 and 13, 1934.

†Dr. Morrell M. Jones graduated from the Detroit College of Medicine and Surgery in 1915. He pursued post-graduate work at Washington University, St. Louis; New York Post Graduate School, and with Dr. Irving W. Potter of Buffalo. He is Attendant Obstetrician and Gynecologist at St. Joseph's Mercy Hospital and Pontiac General Hospital. His practice is limited to Obstetrics and Gynecology.



stage of expulsion it is found directly under the pubic arch. It is in this way the smallest diameter is made to present itself at the superior strait and at the outlet. All cases in which this diameter does not so present itself, are theoretically abnormal—thus leading to delay in labor.

After knowing now that the longer diameter of the fetal head presents itself at the superior strait and realizing the mechanism of labor in these cases with their undue extension, the occiput having to rotate three-eighths of a circle instead of one-eighth in your left occipito-anterior cases, it is quite easy to understand why these labors are so long and tedious and associated with maternal and uterine exhaustion and some times obstetrical shock. It is a mistake to suppose that every obstetrical case needs active treatment or operative interference because the efforts of nature sometimes bring about a very happy termination and nothing could be more ill advised or mischievous.

All of these cephalic mal-presentations are attended by undue extension with a resulting increase in the diameter of engagement. Non-recognition of this mal-presentation is attended by disastrous consequences. Realizing that the right occipito-posterior occurs in 30 per cent of the cases, it is apparent that we all will have ample opportunity to perfect our selves in the diagnosis of this position.

Now we come to decide which method of delivery is safest for mother and child. Only a very small majority of fetuses in posterior-occipito position will rotate spontaneously. Delivery of course, of the fetus in the persistent posterior position is absolutely unnecessary and is attended by danger to the child. In my work my sheet anchor in these cases is internal podalic version, Potter technique.

Before briefly describing the advantages of Potter's technic, I wish to state the importance of estimating the degree of risk for an obstetrical procedure. To estimate the operative risk is more difficult in obstetrics than it is in gynecology because there are two risks—mother and child. If you disregard the latter, the maternal side may be lessened, but the main object of intelligent operative intervention is to save both mother and child. From the early

months of pregnancy, each obstetrical patient presents a problem in risks all of its own. Will this particular pelvis permit the passage of the ordinary sized child? If one must interfere, what are the maternal and fetal dangers? Is the operative risk increased by delay? Is it worth while to increase the maternal risk for the sake of the child who may not survive long?

Now briefly, the technic of Potter is as follows: The woman is placed on the table and anesthetized to the stage of surgical anesthesia, using chloroform as the anesthetic agent. Of course when using chloroform, it requires the services of a capable, trained anesthetist who knows chloroform and how to use it. It is superior to other anesthetic agents in its production of relaxation. Too many obstetricians have been seriously handicapped in their performance of version because of a timid anesthetist. If one attempts version without adequate anesthesia relaxation, he is sure to run into serious trouble, with imminent danger of rupturing the uterus. I know of no other anesthetic agent that gives such satisfactory relaxation as chloroform, in the hands of a skilled anesthetist. The vagina and soft parts are thoroughly "ironed out." It matters not whether the case be a primipara or a multipara, the procedure can be just as satisfactory and completely done. Now the cervix, which must always be obliterated or soft and easily dilatable before version is ever attempted, is gently stretched with the fingers. Then the outstretched hand and the arm is pushed high up between the uterine wall and the membranes, and the latter are gently separated all over by sweeping the fingers of the hand up and down and around, being careful not to work too near the placenta.

The hand is now free in the uterine cavity, the position of the child is made out and its probable size estimated, the position of the cord ascertained and the diameters of the pelvis approximated. Both feet are now grasped between the first and middle fingers of the left hand—the left hand is always used for the version no matter what position the child is in. According to the position of the child, the toes will either look to the palm of the hand of the operator or away from it. If the feet are locked at the fundus, gently unlock them and seize one foot bringing it down; then reach up

for the second foot, grasping both feet between the fingers.

Now the extraction and both feet are brought down to the vulva and delivered together, the child's body having rotated with this onward movement. Slight pressure is sometimes necessary at this stage to lift the head out of either iliac fossa with the right hand. Continued gentle traction is made until the knees are exposed, at which time the version is complete. Now rest for a few moments and then gently pull upon the anterior foot and lower leg until the pelvis of the child comes into view, when it will be seen that the pelvis is rotated in the opposite direction and is eventually delivered in that direction. This rotation is brought about by the traction on the lower leg and the baby comes into the world with its back transverse to the pelvic outlet. No attention is paid to the cord at this time if it is free and loose, which it usually is, but if it is tight and short a clamp is placed at the umbilicus and the cord is cut, if it cannot otherwise be loosened.

We now proceed with the delivery of the scapulæ which must always be thoroughly exposed and well out in view before any attempt is made to deliver the shoulders. Then the fingers and the hand of the operator are pushed well above the shoulder between the lips of the vulva and the anterior shoulder is delivered with the upper arm. The operator now grasps the baby with his hand over the exposed shoulder and chest and rotates the child's body so that the posterior arm comes anterior and is delivered as such. Both shoulders being now delivered, the lower arms usually fall out themselves. If, however, they remain undelivered they can be gently lifted up across the chest of the child and drawn away from the perineum under the pubic arch. The older method of version brought the arm down as a posterior arm across the distended perineum, which was often the cause of the extensive tears consequent upon that method of podalic extraction.

The operator now determines whether there is any loop of the cord around the neck, and finding none he proceeds with the delivery, but if the cord be twisted once or twice or even three times around the neck this condition of the cord must, if possible, be relieved by loosening it, and if absolutely necessary, it must be clamped

and cut. However, usually the cord is free and no haste is necessary.

The fingers of the left hand are now inserted into the baby's mouth and with the right hand gentle pressure is made upon the occiput over the pubes to aid in the flexion of the baby's head and also to direct its passage through the pelvic canal. The jaw is not pulled upon, as a fracture might result.

Up to this point no pressure from the outside has been made in the delivery because such pressure over the head before delivery of the arms has a tendency to push the head down, which allows the arms to go up as well as extend the chin, complications which at all times must be avoided, and I am sure it is this pressure that makes the difficulties and dangers of the other methods of version.

By this time the baby's mouth is exposed and the mucus is milked out of the throat by the fingers gently stripping the front of the neck, when the baby will begin to breathe and often cry aloud. The head can be left in this position long enough to dilate thoroughly the perineum and vaginal structures as no haste is indicated and finally the nose is delivered, followed by the brow in an extremely flexed condition which is further assisted by lifting the body well forward and up from the perineum. The baby is now placed upon its right side on its mother's abdomen.

It is always my practice to clamp and cut the cord immediately as soon as the child is delivered.

In short the great advantages of Potter's technic are as follows:

1. High rupture of membranes.
2. Both feet brought down.
3. Better traction and better wedge.
4. Buttocks delivered in hollow of sacrum—with abdomen of baby to maternal bladder.
5. Prevents nuchal arms.
6. Pressure in axilla and rotating scapulæ under pubic arch almost makes shoulders and arms deliver themselves.
7. Crossing of the child's arms on its own chest before feet are brought down to the vulva.

I know numerous protests have been made against immediate repair, such as danger of infection, lochia, danger of pro-



longed anesthesia, hemorrhage and shock, and interference with future deliveries, but I believe it has its economic advantages, that it is obstetrically sound, and I am very much in favor of the physical advantages of gynoplastic repair.

Twelve years ago Potter's theory was practically without support, today a large number of practitioners are employing his technic and giving it their endorsement. When the time comes to record obstetrician's contributions to the science and practice of obstetrics, I am sure Potter will share the prominent place that he justly deserves, because in the face of criticism and condemnation, he had the courage of his convictions to carry on in the interest of the woman in labor. He does not advocate version for anyone who does not want to do it or is afraid to try it. I believe any one who has the proper ground work and is well trained in obstetrics can do a version equally as well as he can be trained to perform a cesarean or any other major operative procedure.

I firmly believe that any method that will tend to shorten that much dreaded second stage (that is, of course, if this method is compatible with safety for mother and child and if the attendant is especially dextrous and able) will do more than any other single influence to lessen the fear of childbirth now so universal among mothers and will result in a higher birth rate in that class of society which the well being of our state rests.

I think version is ideal in the management of these cases because the rapidity of convalescence is due to elimination of shock since they are not called upon to endure anguish of a long second stage. Many of our patients are in poor physical condition at the time of labor. Eliminate fear of pain because it throws off the equilibrium of the sympathetic innervation of the uterus. The actual pain itself can over a long period of time and actually does cause post-partum shock. In all cases of labor there is a certain amount of shock, even if it be very slight, and if we can in a large manner eliminate pain by bringing about an early delivery, we conserve our patient's strength, making no drain upon her energy reserve. She recovers quickly, and is more willing to increase the size of her family. There are variable limits which Nature

sets in woman as to their ability to endure pain, wakefulness, mental and nervous strain which they are called upon to go through in these persistent posterior occiput cases. The institution of the proper kind of management of these cases will prevent most cases of neurasthenia, exhaustion, psychosis, and in severe cases sometimes puerperal insanity. It is this psychic shock which influences the woman's whole life and may prevent further child-bearing and marital unhappiness, often ending in divorce. Women are used up in bearing children, and many husbands do not like an ailing, unresponsive wife.

The so-called "test of labor" has been abused. Jaggard introduced the term "watchful expectancy," but he also sharply distinguishes between "Masterly Inactivity" and "supine waiting" policy, but in most cases, unfortunately too, the "test of labor" disintegrated into a "Hopeful Procrastination." There is an immense army of women who are suffering from sub-invalidism who say that they have never felt well since their first baby. The Parturient woman, probably cared for during labor, will put obstetrics as a richly scientific member of the science and art of medicine. Letting the woman pound the fetal head on the pelvic floor hour after hour, as Dr. DeLee said, is mid-wifery by omission. And so, in these posterior positions with the chance of injuries from below brought about by long continuance of labor with the constant driving force being brought to bear from above, you lessen trauma of the mother's soft tissues, and the chance of injury to the child's head is also lessened by shortening the time that the head is compressed in the pelvis.

Persistent posterior occiput wrongly treated is one of the tragedies of obstetrics. Accurate diagnosis is the important factor in the proper management of this mal-position. In these cases there is so many times distinct evidence of fetal distress and this in turn so often associated with intracranial injury that it should be detected early with intervention as soon as conditions are favorable and not be delayed until irreparable damage and injury has been done to the fetal nervous system. Early recognition of this mal-presentation, correction of it early in the second stage of labor, with intelligent intervention rather than too much of this so-called "watchful expectancy" will

result in a less frequent occurrence of birth injuries.

A comparison of the methods has convinced me in a very positive way that the Potter technic of internal podalic version (in selected cases of posterior occiput) should be the method of choice, and in my hands has been most gratifying. I will say along this line that in these cases it is my plan to get my patient into the second stage with her physical powers as nearly intact as may be and with the least possible impairment of her nervous forces and to accomplish this end the judicious employment of some analgesic or opiate is often of very great value. These all serve to give the mother rest because there is no doubting that the greatly exhausted woman is more apt to become infected and is more likely to bleed.

As Strasman says, "No other day contains so many dangers to the life of a man as the day of his birth with which ends this contemplative life of peace within his mother's organism."

### Conclusions

1. The technic of Potter in internal podalic version is far superior.
2. In selected posterior occiput cases, maternal and uterine exhaustion and sometimes obstetrical shock is avoided.
3. It has been proven safe for mother and child when operator is thoroughly familiar with Potter's technic.
4. The time is not far distant when the indications and performance of version will take its rightful place and be broadened in its application.

An obstetrician has a wonderful opportunity for doing good and alleviating suffering. The conduct of labor must meet the requirements of modern womanhood. The woman nowadays demands a safe labor, freedom from unnecessary pain, a reasonable length of labor. She also demands a healthy baby, free from the effects of traumatism during labor and delivery. We are all intensely interested in the woman in travail, that her anguish be lessened, her hour shortened and her joy made complete.

### DOCTORS, DOCTORS AND DOCTORS

"The physician's entrance into the sick-room and his bedside deportment are a part of the art of medicine not generally understood. Some doctors come plunging into the chamber of the sick like a fireman about to extinguish a conflagration; they alarm the patient. Some come like a detective looking for a criminal, and give the patient cold creeps. Others enter stealthily like a cat stalking a bird, and are beside the patient and pounce upon the pulse before any one is aware; they fill the patient with a wierd sense of the chase. There is a class that come like purring doves, as though they would make love; they are thought nice by sentimental ladies. There are the doctors with the doleful faces, like the hired mourners who follow the catafalque; if the patient is bad they make him worse; if he is not they cause him to smile. A common lot enter like the monologue artist on the vaudeville stage and start a barrage of wise-cracks that entertain the nurse and amuse themselves, while the patient waits for business to begin. Then there is the radiant doctor who has studied how to impress himself upon others and fill the room with the effulgent aura of his personality; he impresses only the weak-minded. There is the pompous doctor of the school of hope, who comes with a strong expression and eyes beaming with glad tidings; he scares the demon of disease, and makes the patient fearful of the size of the doctor's bill. Some doctors enter in a casual way, apparently unconscious of the patient's presence, and talk about the weather or the fire, while the patient longs for succor. The egotistic kind first must tell how busy

they are and how little sleep they snatch between the rings of the telephone, how fast they have to drive to reach the outposts of disease, and how extraordinary are the cures they make; these give comfort to some, but mostly to themselves. There is the stumbling lout, whose bag upsets the vase of flowers, and who sets his bulky hulk upon the bed; the patient forgives much in the hope that the doctor is mighty also in healing power. The business-man physician whose manners smack of the marts of trade, smart, abrupt, and dapper, impresses the patient that he is attending a board meeting and wants the minutes read at once; the patient wishes he were more sympathetic. And then comes the doctor of mystery, all quiet and sedate, with soft voice, and furtive words, and sanctimonious manner; the patient, if of the susceptible type, thinks of wonders and of miracles.

"When the patients do well under their administrations, which in nine cases out of ten they do, each of these peculiarities becomes glorified into a healing virtue, and the doctor goes on cultivating his idiosyncrasy. The vast number of highly qualified physicians come under none of these classifications. Most physicians are just plain doctors. They may be tinctured with some of these traits, but not enough to matter. They exemplify good bedside manners. They possess urbanity; it is obvious that they are gentlemen; they do and say the thing that is fitting; they go about their business with dignity, directness, and despatch; it is clear that they have the matter in hand; and then, when they have finished, they say the few words that indicate sympathy and understanding, and quietly take their leave."—*The Doctor and the Public*, by J. P. WARBASSE; Paul B. Hoeber, Publisher.



# THE JOURNAL

OF THE

## *Michigan State Medical Society*

---

### PUBLICATION COMMITTEE

J. EARL McINTYRE, M.D., Chairman.....Lansing  
 A. S. BRUNK, M.D.....Detroit  
 HOWARD H. CUMMINGS, M.D.....Ann Arbor

---

### Editor

J. H. DEMPSTER, M.A., M.D.  
 5761 Stanton Avenue, Detroit, Michigan

---

### Business Manager

B. R. CORBUS, M.D.  
 2642 University Avenue, St. Paul, Minnesota, and  
 313 Metz Building, Grand Rapids, Michigan

---

OCTOBER, 1935

---

## EDITORIAL

### THE PRESIDENT'S ADDRESS

The address of the president of the Michigan State Medical Society is a significant event each year. Greater latitude is permitted in the choice and treatment of the subject than is accorded the writer of strictly scientific papers. The president may survey his subject and from his observations forecast and recommend. Doctor Smith's address is a masterpiece of clear and precise English. Carlyle has drawn attention to the fact that man is an animal who looks before and after, and adds that he had better look around a little. The presidential address does this very thing.

It is particularly fitting that meeting in the oldest established town west of Montreal, Doctor Smith should take occasion to review the early history of Michigan, to picture to us the forest primeval and the determined efforts of rugged pioneers to subdue the virgin country to cultivation. First the lumbering industries, then agriculture, then the industrial age, Michigan has proved a sort of microcosm, since during the three hundred years of its settlement, it has passed from the period of the hunter through the pastoral to the most highly mechanised stage. Medicine is to a

large extent a reflection of the social conditions of the times. The first ministrations were by the priest; then came the doctor, or medicine man, with his more or less crude methods; then, with the advance of scientific discovery, greater refinements in the healing art, and finally with the industrial age came highly developed specialism.

Doctor Smith predicts that the future of medicine will be in the direction of prevention. We are accustomed to limit the word to the staying of infectious disease. Its greater scope, however, is in holding in check the degenerate changes that produce early senility or its equivalent.

The pioneer spirit is no longer required to subdue forests, to reduce land to cultivation, but to solve different if not more momentous problems of an economic and sociological nature, and here the doctor with his medical acumen may contribute leadership.

---

### AFFAIRS IN CALIFORNIA

Under this heading appears a letter † from Dr. F. C. Warnshuis, former secretary of the Michigan State Medical Society. Dr. Warnshuis is now Secretary of the California Medical Association. In view of the fact that the California Medical Society has declared itself in favor of compulsory health insurance, Dr. Warnshuis' letter is of more than usual interest. Among the facts related are: California has about 11,500 licensed physicians, 1,500 osteopaths, 3,500 chiropractors as well as a considerable number of nondescripts. Throughout the state the ratio of doctors to population is 1:652; the metropolitan areas, 1:551. During 1933-34 seventy-five per cent of the practicing physicians earned less than \$5,000, and fifty per cent less than \$3,000. Of the 11,500 licensed physicians, only 6,000 are members of the California State Medical Association.

Since 1917, Dr. Warnshuis writes, some form of health insurance has been the subject of almost constant discussion among the laity. We have read the reprint mentioned in his letter which gives in detail the course taken by the council and house of delegates of the California State Medical Society. From it, as well as the letter, it is apparent that the medical profession is confronted with a situation that appears unique

---

†See page 639.

in this country. There seems little question but that the profession were justified in taking the lead, as they have and as the medical profession are entitled to do in any state.

Dr. Warnshuis mentions the movement to open up county hospitals, that is, tax supported hospitals, to all citizens requiring hospitalization. In one county 90 per cent, and in another 82 per cent, of residents requiring hospitalization had already enjoyed this privilege. If this means that the population without discrimination are allowed the privileges of county hospitals on the same basis as indigents, it does not require much imagination to predict the plight of the medical profession.

So far as we know in Michigan, county hospitals have been reserved entirely to indigents. Compulsory health insurance has not achieved any wide popularity here and it has certainly not been favored by the medical profession. We will watch with interest California's experience in what is a new venture on this side of the Atlantic.

---

## THE "STATE"

So much has been written and so much has been talked about the "state" in connection with the idea of state medicine that it might be of interest to define the state or, better, to present the conception as proclaimed by two or three political economists. The idea in the minds of many is that the term applies to any one of the forty-eight political divisions of this country.

T. H. Green\* defined the state as a body of persons recognized by each other as having rights and possessing certain institutions for the maintenance of those rights.

Harold Laski † expresses himself as follows: "By *state* I mean a society which is integrated by possessing a coercive authority legally supreme over any individual or group which is part of the society. An examination of any national society will always reveal within its boundaries not only individuals but also associations of men

grouped together to promote all kinds of objects, religious, economic, cultural, political, in which they are interested. Such a society is a state when the way of life to which both individuals and associations must conform is defined by a coercive authority binding upon them all."

A. G. Keller, ‡ professor of the Science of Society, Yale University, comments on the difference between state and nation as follows: "The familiar form of regulative organization is the state. The terms 'nation' and 'state' are often confused. The nation is a group of people who speak the same language, have the same general type of institutions, and cherish a common fund of convictions, principles, and aims, in a word who have a common set of *mores*. A state, by contrast, is the regulative organization of a definite territory."

We see that the conception of state as here defined might include any governmental group from the smallest to the greatest coincident with the nation itself.

---

## HOW TO ATTAIN GREATNESS

"The doctor was a great man in the community through a long lifetime. The old doctor has his safe full of promissory notes which he never tried to collect. When a poor man came to pay his bill, the doctor cut it in half."

This quotation is from a rural newspaper. We have all read similar tributes. How many of us would prize such immortality? Why a safe for promissory notes that were never presented for collection? Since the doctor was such an indifferent collector, it would be interesting to know how prompt he was in meeting his own financial obligations. What about the claims of his family? Were they of less concern to him than his patients? What about his mental equipment? Did he keep abreast with the latest achievements in medicine? Doubtless the present day physician would feel more at ease with his conscience if he strove to keep abreast of the times by post-graduate study, attendance upon medical meetings, by purchasing and reading the best medical literature in the form of books and medical journals. This cannot be done by keeping promissory notes locked in a safe beyond the date of maturity.

---

\* Principles of Political Obligation, by T. H. Green.

† The State in Theory and Practice, page 8, by H. Laski, Professor of Political Economy, University of London.

‡ Man's Rough Road.



## MEDICO - LEGAL DEPARTMENT

### LEGAL CONSENT TO OPERATIONS

By CLAYTON C. PURDY, *Detroit, Michigan*

What constitutes legal consent to an operation?

This question has been passed on several times recently by our Michigan Supreme Court. All possible cases are not answered by these decisions, but they give us excellent ground-work as to what is required in this state. One of the most recent decisions in which this question is answered is that of *Rytkonen v. Lojacono*, 269 Mich. 270, decided late in 1934. That was a suit against a physician for alleged malpractice with the added count that proper consent to the operation was not secured. The patient in that case was a man with an advanced case of tuberculosis. A rib resection was performed and the patient died soon after the operation. After the patient's death, the wife, as Administrator of the estate, instituted suit, claiming that proper consent had not been given to the operation. The Supreme Court of Michigan held in that case that where the husband is mentally capable of giving consent to an operation on himself, although he is very ill, it is not necessary to obtain the consent of the wife.

A more recent case decided by the Supreme Court of Michigan is that of *Zoski v. Gaines*, 271 Mich. 1. In that case the plaintiff, a normal boy of nine and one-half years, was taken by a school nurse to the City Physician on suspicion of infected tonsils. The City Physician sent him to a private hospital with a memorandum requesting the removal of his tonsils and adenoids. The boy was accompanied to the hospital by his fifteen-year old brother, and his tonsils were removed by the defendant in the case. The testimony in the case showed that the parents did not know of the operation until it had been performed and their testimony showed that they had repeatedly stated they did not want the child's tonsils removed. This, of course, was not known to the doctor who removed the tonsils as it was presumed by him that the parents were perfectly satisfied inasmuch as the City Physician had sent him for this operation.

The Court, after considering all of the facts involved in the case, held that the operation was unlawful because it was without the consent of the plaintiff's parents and constituted an assault upon plaintiff for which the defendant was liable. This case, insofar as we have been able to ascertain, is only the second case which has held that it is necessary to have the parents' consent to an operation on a minor child, although we believe it has been generally understood by the medical profession and the public that that is the law.

The Courts generally have held that a surgical operation is a technical battery, regardless of the success of the operation or the benefits that may accrue to the patient from it, where said operation is performed without the express or implied consent of the necessary party.

An interesting case which has definitely made this rule in Michigan is that of *Franklyn v. Peabody*, 249 Mich. 363, decided by the Supreme Court of Michigan in January, 1930. In that case, the plaintiff had a stiff finger resulting from an injury. She visited the Ford Hospital in the City of Detroit and was advised by Dr. Peabody, the defendant, that an operation would be beneficial. The day of the operation, Dr. Peabody was otherwise engaged, and a Dr. Johnston was assigned to perform the operation. An anesthetic was administered and the finger and palm of the hand were opened, when it was discovered that the superficial and deep tendons had adhered together, and to separate them it was necessary to sheathe each in added fascia. Upon discovering this, Dr. Johnston summoned Dr. Peabody and they agreed that it would be necessary, in order to obtain the best results, to remove some fascia from a limb of the patient and to transplant it to hand. The plaintiff was unconscious and therefore not consulted, and the fascia was taken from the limb to complete the operation. The plaintiff claimed some injuries to her limb, and it was on that ground that suit was instituted, the Supreme Court of Michigan stating:

"Accepting plaintiff's claim as true, Dr. Johnston, in operating upon her thigh without her consent, committed a trespass to her person for which he would be liable to respond in damages in an action for assault and battery."

The Court stated that the general rule was as follows:

"Where a patient is in possession of his Faculties and in such physical health as to be able to consult about his condition, and no emergency exists making it impracticable to confer with him, his consent is a prerequisite to a surgical operation by his physician; and a surgeon who performs an operation without his patient's consent, express or implied, commits an assault for which he is liable in damages."

An exception, of course, exists in the case of emergencies endangering the plaintiff's life. This was passed on by the Michigan Supreme Court in the case of *Luka v. Lowrie*, 171 Mich 122, decided in July, 1912, where the plaintiff, a boy fifteen years old, had had his foot badly injured and four physicians who examined it concluded it was necessary to amputate the foot, and sent for the defendant, who examined the patient and decided the foot must be amputated. The plaintiff being unconscious and having no friends or relatives accessible, the foot was amputated by the defendant, and later suit was instituted against him based upon the charge of assault and battery. The Court held that the doctor was justified in treating this case as an emergency and that in such a case he was entitled to use his best judgment.

There are several other situations that may arise but have not been passed on by our Michigan courts. Courts of other states have held that the consent of a husband is necessary for an operation on an insane wife, and that the consent of the mother is sufficient in case of an adult daughter temporarily incompetent by reason of illness.

We have been unable to find any case in which the parents have refused consent to a necessary operation because of ignorance or religious reasons that has been passed on by a court of record. All of us have read newspaper articles at various times pertaining to this question, but it seems never to have come before a court of last resort. Such a question will merit careful consideration when it does arise.

---

A Frenchman was relating his experience in studying the English language. He said:

"When I first discovered that if I was quick, I was fast; that if I was tied I was fast; if I spent too freely I was fast and that not to eat was to fast, I was discouraged. But when I came across the sentence, 'The first one won one one-dollar prize' I gave up trying to learn the English language."

## A MOMENT OF MEDICAL HISTORY

WILFRID T. DEMPSTER, D.Sc.

Ann Arbor, Michigan

### BACTERIOLOGICAL AND TISSUE CULTURE METHODS

*(Concluded)*

A great difficulty in bacteriological work during the 1870's and earlier was the production of pure line cultures of bacteria. If the material to be cultured consisted of several forms rather than one, it was impossible in routine culturing to separate these forms. Lister (1878) attempted to separate a complex culture by dilution and subsequent reculture of as small a quantity of diluted culture as would contain a single organism. This process was tedious and uncertain. Klebs subjected mixed cultures to a series of constant temperatures in the hope that certain strains would thrive while others would be killed.

In the early studies on anthrax and septicemia during the 1870's, the animal body was considered a perfect culture medium for pathogenic forms. If a heterogeneous inoculation were made into a laboratory animal, it was found that one type of organism became localized in certain regions of the body where it formed typical pathological lesions, while another type of bacterium either disappeared entirely or was localized in lesions of a different sort. This discovery, however, was of little value with non-pathogenic forms.

Another technic, consequently, acquired more widespread use. Schroeter (1872) studied chromogenic bacteria cultured on potato, and he found that growths of these organisms could be separated because of their color. Each type of organism formed a colony of a specific color. The inoculated potato thus showed spots of red, green, brown or other colors, each color indicating a pure strain. Koch (1881) also used potato culture bacteria, but he found the opaque character of this medium was a drawback in dealing with colorless bacteria. He conceived that a transparent, solid, sterile medium was desirable. A solid medium would permit colony formation; a transparent medium would allow different colonies to be recognized. The addition of two to five per-



cent gelatin to broth formed a nutrient culture medium meeting Koch's requirement. At first, the material to be cultured was wiped across the surface of the nutrient gelatin. Later (1883), the inoculum was thoroughly mixed with the melted medium, which was in turn poured upon a plate of glass to form a solid, gelatinous film. In either case, the progeny of specific bacteria gave rise to growths or colonies which were localized on the gelatin.

Koch's method of using solid transparent media almost revolutionized bacteriological technic, and nearly all later advances in practical bacteriology were in some way dependent on this method. An important modification in the technic of transparent media came with the introduction of agar-agar as an alternate, solid nutrient material. This substance which remained solid at higher temperatures than gelatin was introduced in 1882 along with coagulated blood serum. There are now well over a thousand nutrient media having a solid basis, and most of these are transparent.

In the routine technic with solid media, sterile squares of glass were plated with the nutrient medium and were placed under bell jars, which were sealed to a glass table to prevent external contamination. Proper humidity was preserved within the bell jar by the introduction of moist blotting paper. An assistant of Koch named Petrie improved the technic in 1887. He poured agar-agar or gelatin media into shallow plates fitted with covers. The Petrie dish was more easily handled than the bell jar and did not require special methods for keeping the humidity adjusted. It, therefore, replaced the more cumbersome method and is important in routine culture work today.

Another adjunct to culture methods was the incubator. Since bacteria flourished better at certain temperatures than at others, a means for maintaining a constant temperature was essential. In the early days of bacteriological technic, cultures were kept at room temperature or were placed in a water bath, the temperature of which was raised slightly by a low burning gas flame. Later, incubators which were independent of room temperature and which could be controlled with fair accuracy came into use. In some of the larger laboratories, such as that of Pasteur, whole rooms were adapted as incubation chambers. More commonly,

vessels, surrounded by a double-walled water jacket covered with asbestos insulation, served as incubators. These were provided with thermostats or devices for regulating the flow of gas to the heating burner.

Thermoregulators were often ingenious in design. As early as 1877, Miguel devised thermoregulators in which a bar of zinc was so adjusted in relation to a gas inlet that an increased temperature in the incubating chamber caused the metal to expand with an ensuing reduction of gas pressure. As the incubator cooled, the zinc rod contracted and allowed more gas and thus more heat. Other regulators required an expanding and contracting column of fluid, such as ether, alcohol or mercury, for diminishing and increasing the flow of gas to the heating flame. The d'Arsonval thermoregulator was one of the most popular of the latter type. During the later 1880's, numerous instrument makers provided incubators and thermoregulators to meet all demands for temperature control. In another decade, incubators with electrical relays and heating units vied in popularity with the gas-heated apparatus. Still later, gas was entirely supplanted by electrical equipment.

Through diverse methods of sterilization, protection from contamination and incubation of sterile media, and through a variety of culture media, investigators of bacteria have built up the science of bacteriology. Culture methods have also been of service in the investigation of fungi and the lower animals, as well as in the study of the anatomy and physiology of animal tissue.

Physiologists had long ago discovered that tissues removed from the body fared better in sea water and normal saline solutions than they did in fresh or distilled water. Ringer (1880-1883) found that the pulsation of an isolated frog heart remained more normal if the saline solution used for perfusion were supplemented by potassium and calcium salts and rendered slightly alkaline by sodium bicarbonate. Two decades later, Locke was able to keep heart, kidney and gland tissue of the rabbit in an active state for several hours. Roux and Born found that isolated blastomeres of a frog's egg could be kept alive and growing in filtered egg albumen. It was thus demonstrated that living tissues could be kept alive apart from the animal body. Such tissues, however, ordinarily showed physiological

abnormalities or died from functional causes or because of contamination.

Leo Loeb, in 1897, implanted epithelial cells imbedded in a clot into the peritoneal cavity and subcutaneous tissues of guinea pigs and noted growth. Tumor cells had been similarly implanted previous to this time. Thus it was shown that tissue, if placed in a proper environment, could grow. During the first three years of the present century, blood cells were cultivated *in vitro* by Hirschfeld and Deetjen, Bodon and Joly. The cells remained alive for periods as long as two weeks. In 1907, Ross Harrison, using the most rigid aseptic technic, managed to keep a minute piece of embryonic frog nerve tissue alive and growing in a culture medium consisting of coagulated frog lymph. The nerve fibers grew and differentiated and were continuously observed in a hanging drop preparation. A similar technic was adapted by Burrows (1910) to the study of mammalian tissues in blood serum. Simultaneously, Carrel made studies on the culture of embryonic and cancerous tissues. Later, he found that embryonic juices added to a culture allowed indefinite growth of tissues through the presence of growth-promoting substances which he called trephones. Further developments in tissue culture technic came with the work of Carrel, the Lewises, Fischer, Levi and others. The requirements for a successful tissue culture were aseptic technic, a solid substrate on which the cells could migrate, a satisfactory nutrient medium, an appropriate temperature and the use of growth-promoting substances. The principal culture media used were lymph, blood serum, sometimes egg albumen and tissue extracts, particularly those from embryos, leukocytes and bone marrow. These were solidified by heat. Gelatin and agar-agar were likewise used.

The most recent development of culture methods is concerned with growing whole organs *in vitro*. Though this method requires meticulous surgical technic, suitable incubation and a mechanism for oxygenat-

ing fluid, it involves particularly the development of methods for perfusing the blood vessels with nutrient media or blood in such a way that normal systolic and diastolic pressures are maintained. According to the recent method (1935) of Alexis Carrel, who had the mechanical assistance of Col. Lindbergh, the aviator, in the construction of the apparatus, organs are removed from an animal together with their vessels. The artery is connected with the apparatus by a cannula and the organ is placed in a culture chamber. A sterile pulsating circulation is forced through the organ at definite, pulsating pressures. A quantity of fluid equal to two thousand times the volume of the perfused organ is required. Ordinarily, blood serum containing a small amount of phenol red as an indicator is used. Alternate fluid media containing protein split-products, hemin, cysteine, insulin, thyroxin, glutathione, vitamin A, ascorbic acid, blood serum, etc., are useful.

The nutrient fluid, after passing through an aërating chamber, where it is exposed to a regulated concentration of aërating gases, enters the organ as a pulsating, nutrient stream. Quantities of fluid may be removed for chemical analysis at any time and the pressure, temperature and character of the nutrient media may be varied with the experiments. With this apparatus "an entire organ, such as an ovary, has been maintained alive *in vitro*. It not only survived, but increased in size and in weight. This increase was due to the appearance of new cells and tissues. It is, therefore, probable that this method provides important uses in physiological chemistry, physiology and pathology." The technic will be turned to such purposes as "the manufacture *in vitro* of the secretions of the endocrine glands, the isolation of the substances essential to growth, differentiation and functional activity of these glands, the discovery of the laws of the association of organs, the production *in vitro* and the treatment of organic and arterial disease."



## THE SOO MEETING

One of the most satisfactory annual meetings ever held by the Michigan State Medical Society has passed into history. Ideal weather, clear blue skies greeted those

opened their comfortable homes and extended the hand of welcome.

The annual meeting opened Monday, September 23, with the first session of the House of Delegates at 3:00 P. M. The November number of the JOURNAL will be



DR. GROVER C. PENBERTHY of Detroit

President of the Michigan State Medical Society for 1935-1936



DR. H. E. PERRY

President-Elect, Michigan State Medical Society

members and their wives and families who rolled northward and eastward over the broad highways of Michigan, flanked, as one nears his destination, with pine, fir and hemlock, when an opportunity was afforded the visitors to view the highway development of the upper part of lower Michigan as well as the extreme eastern portion of the Upper Peninsula. Not only are the highways broad and substantial but there is a very commendable effort in landscaping the upper route. Wherever streams call for bridges, the bridges are models of artistic design. The delicate tints here and there of early frost, the deep blue of the numerous lakes all combined to produce an artist's paradise almost anywhere.

While the Soo is one of the smaller cities of Michigan, no one suffered for lack of accommodation. While the limitations of hotel space were taxed to the utmost, citizens

Dr. H. E. Perry of Newberry was elected president-elect of the Michigan State Medical Society. Dr. Perry is a graduate of the Michigan College of Medicine and Surgery, 1897. He is also a graduate of the Northwestern University Medical School, 1904. Since his graduation he has practiced in the Upper Peninsula. His interest in Michigan medicine has been recognized by his activity in medical affairs outside his immediate practice. He has been president of the Upper Peninsula Medical Society and for the past two years he has served on the Council of the Michigan State Medical Society, representing the eastern portion of the Upper Peninsula or 12th Councilor District. He has also served as a member of the state legislature, having been elected in 1932.

largely devoted to the publication of the transactions of that body so there will be no attempt to anticipate the verbatim report here.

The members of the Council whose terms had expired were re-elected. These included Dr. A. S. Brunk of Detroit, Dr. J. E. McIntyre of Lansing, Dr. George C. Hafford of Albion, Dr. Frederick A. Baker of Pontiac. Dr. F. C. Bandy of Sault Ste. Marie

was elected Councilor to fill the vacancy caused by the election of Dr. H. E. Perry as President-Elect.

Members of the House of Delegates went on record as favoring a full-time executive and requested that a full time secretary be

The arrangement of the exhibits, both scientific and commercial, was in the highest degree satisfactory to exhibitors and Society members alike.

A feature of the Scientific Exhibit was the presentation not only of photographs,



DR. FRANK E. REEDER of Flint

Elected Speaker of the House of Delegates to succeed Dr. H. A. Luce.



DR. F. C. BANDY of Sault Ste. Marie

Newly elected Councilor for District No. 12. Dr. Bandy was elected to succeed Dr. H. E. Perry, the President-Elect.

appointed with the least possible delay. Doctor Ekelund of Pontiac was appointed Medical Secretary at the January meeting of the Council to succeed Dr. B. R. Corbus, whose term expires on the 15th of October. The Medical Secretary will be responsible for the policies of the Society under the Council and the House of Delegates. The Executive Secretary, Mr. W. J. Burns, will have charge of the details of the administration of the Society, including the business management of the JOURNAL.

Dr. B. R. Corbus concludes thirteen years of valued and efficient service to the Society. He has served as Councilor, as Chairman of the Council and of the Executive Committee and, as the past year has proved, a most efficient successor to Dr. F. C. Warnshuis, who resigned to go to California. Dr. Corbus has put forth every effort for a successful annual meeting that is in the utmost degree commendable.

specimens and x-ray films, but the fact that these were demonstrated to the small groups that assembled at frequent intervals to observe and study them.

Dr. Grover C. Penberthy, president of the Society, had a rare and extensive exhibit and demonstration of the treatment of burns which consisted of a moving picture demonstration of operations and methods, of photographs showing various stages and a unique feature whereby colored photographs were magnified to life size and presented by means of a special viewing apparatus whereby the photographs of the results of treatment were demonstrated.

Dr. C. J. Gurdjian had a splendid exhibit of head injuries due to accidents. Almost every type of brain and skull injury was demonstrated. Dr. Gurdjian, in person, explained the charts and diagrams, which fact added greatly to the understanding as com-



pared with the result without the demonstration.

Dr. W. H. Hudson had a very interesting exhibit on thoracic surgery which he also explained in person to those interested. Among other things, his radiographs illus-

The House of Delegates passed a resolution establishing a section on radiology.

The cancer exhibit was sponsored by the Cancer Committee of the State Medical Society and the American Society for the Control of Cancer. It consisted of thirty-four



DR. RICHARD R. SMITH of Grand Rapids  
Immediate Past President of the Michigan  
State Medical Society



DR. BURTON R. CORBUS of Grand Rapids

Doctor Corbus has retired after thirteen years as Councilor and one year as Secretary of the Michigan State Medical Society.

trated foreign bodies inhaled and also in the esophagus, together with the methods of their removal; pneumothorax in tuberculosis; intrapleural pneumolysis for pulmonary adhesions by the closed method; extrapleural pneumolysis with paraffin; selected thoracoplasty for limited pulmonary tuberculosis; radical thoracoplasty; carcinoma of the lung with diagnosis by x-rays and endoscopy; mediastinal tumors and diverticuli of the esophagus; pulmonary sequestra.

The Michigan Roentgenological Society had an extensive exhibit, not of the rare and unusual findings in roentgenology, but of conditions which come up in the routine of the practice of medicine and surgery. These films were splendidly arranged with films showing the various lesions as compared with the normal conditions. A complete list of the specimens shown appeared in the September number of the JOURNAL.

wax models of cancerous lesions of the breast, skin, mouth, lip, stomach, rectum, and uterus, each model accompanied with a concise clinical history and photograph of the patient showing the lesion *in situ*.

There was a series of charts showing differential diagnosis of cervical lesions, classification of uterine cancer, and methods of prevention. A similar series was devoted to cancer of the breast, emphasizing the hopefulness of early diagnosis and treatment. Additional charts dealt with deaths and death rates for the United States.

By a series of outline maps of the United States, the educational activities of state medical societies in the cancer field were graphically shown.

Throughout the period of the exhibit emphasis was placed on the value of early diagnosis and early adequate treatment of this disease. Some models of advanced cancer were shown to emphasize the dangers of delay in diagnosis and therapy.



DR. H. A. LUCE of Detroit

Doctor Luce has served for several years as Speaker of the House of Delegates and has retired from official service in the Society.

The Michigan Department of Health presented a graphic exhibit of samples of biological products supplied by the Department. Maps and graphs were exhibited showing maternal and infant mortality, full time county district Health Departments, cancer and tuberculosis statistics.

Dr. Clair Straith exhibited numerous photographs showing extensive traumatic lesions of the head, and nasal deformities which were corrected by plastic surgery.

Dr. George Walbott had a very interesting and instructive exhibit illustrating allergic shock. The presentation was in the form of charts and photographs.

The subject of hematuria in its broadest aspects was presented by Dr. Robert A. MacArthur by means of transparencies, gross dissections and photomicrographs.

#### Beverly Drake Harison

Plans were made to honor the memory of Dr. Beverly Drake Harison, at one time a resident of Sault Ste. Marie, who was instrumental in establishing restrictive medi-

cal legislation in Michigan. The recognition was to be in the form of a tablet mounted in one of the public parks of the Soo. Owing to the fact that the tablet had not been completed at the time of the annual meeting its unveiling had to be postponed. At some time in the near future, however, this tablet will be placed in position with the following inscription:

BEVERLY DRAKE HARISON  
1855-1925

Prominent Sault Ste. Marie physician. Foremost in Michigan medical registration. One of the founders of the Upper Peninsula Medical Society—President of the Michigan Medical Society 1904.

Among the entertaining features of the convention was the noon luncheon Monday, September 23, served to about 300 members and guests at the Ojibway Hotel. Dr. Richard R. Smith, president of the Society, presided. Doctor Smith, in a suitable introduction, referred to the achievements of the Honorable Chase S. Osborn, at one time Governor of Michigan. Mr. Osborn followed with a delightful address in which he recounted the early efforts in the history of Sault Ste. Marie and the locality.

Many members and their families availed themselves of the opportunity for a boat ride through the locks, where a pleasant two hours was spent on the St. Mary's River.

A buffet luncheon was served Monday night, following the adjournment of the House of Delegates.

The 1936 annual meeting will be held in Detroit.

The following names were added to the emeritus list of the society: Dr. John A. Wessinger, Ann Arbor; Dr. Alvin H. Rockwell, Kalamazoo; and Dr. Edward Ames, Kalamazoo.

The commercial exhibits are particularly worthy of mention. Each was housed in a separate booth with drapes and partitions that were uniform for both commercial and scientific exhibits. The commercial exhibitors expressed satisfaction with the provision for the display made for the various products.

The editor wishes to take this opportunity to thank the outgoing officers: Dr. Richard R. Smith, president; Dr. Burton R. Corbus, secretary; Dr. Henry A. Luce, and Dr. Julius Powers, for their courteous assistance during the past year.





## The Editor's Easy Chair

### THE DOCTOR AND THE PUBLIC\*

One can scarcely imagine a more interesting subject. The physician has held a very definite relation to the public from times immemorial. Coincident with the earliest civilization, yes, even before any definite civilization, was the urge to live and resist man's common enemy, disease. The medicine man or physician was a reflection of the times in which he lived. The more enlightened the age, the more intelligent the efforts to overcome disease. Dr. Warbasse's book is a résumé of the history of medicine from the earliest times to the present. It differs from most histories inasmuch as the author has interspersed his historical narrative with comments which only a resourceful mind would make. We have seldom read a more quotable book. Regarding medicine among the savage tribes, the author writes:

"For countless ages, he was under the spell of the mystical and the unreal. However, to him everything was real because there was no unreal. His mysticism explained everything. But he lived in fear of vicious forces. His pains, his aches, and his deaths were due to invisible creatures which were to be placated, appeased, deceived, cajoled, intimidated, driven out, or destroyed, precisely as he treated animals and men who offended against him. Instead of treating his diseases directly, as did the animals and his ancestors, he proceeded to propitiate the unseen spirits. For thousands of years, he treated the intermediary spirit forces. His thinking led him into an error that wrought incalculable harm."

Then came the age of the physician.

"Thus in the nebulous past, amid the mists of mythology, the physician was born. The gods once were human. These ancient thinkers, discoverers, and leaders were bodies of flesh and flashing eye. They were animated by the longings, the loves, and the disappointments of men. In the onward movement of time, their characters have become swathed in the robes of legend. Their faces have been dimmed by the haze of distance. They have grown apocryphal, and have passed with illusive slowness into the realm of tradition as the diaphanous cur-

tain of time has closed about their forms and left them, like ghosts, bereft of substance, standing in the frontiers of oblivion."

\* \* \*

"Rome decayed and fell. The same thing has happened before and since. History knows it well. Prior to the so-called French Revolution, the excessively wealthy dominant class were not satisfied with the winters at home but moved to the Riviera. The Russian ruling class, before their fall, carried their luxury to the salubrious sands of the Caspian Sea. And the modern Romans can be seen today, in the winters, at southern resorts. History does pretty much the same thing, in pretty much the same way. Human nature continues constant to form.

This is important for medicine because medicine is profoundly influenced by the ebb and flow of civilizations. Economic and intellectual collapse for the people means the same thing for medicine, which has its periods of depression and its dark ages along with the rest of society. Medicine emigrates and goes with the conquering races, enjoys their prosperity, and suffers their decay.

\* \* \*

"Greece had the best of medical science, but the Romans disliked the Greeks as all peoples dislike their superiors."

\* \* \*

"Health is not wholly a matter within the province of doctors. It is the great interest which is touched by every department of life and society. The fluctuations of temperature and of the stock market cause fluctuations in health disease. Peace and war affect health vitally. Even the tariff and the rate of exchange have their influence. Medicine penetrates every social and economic cranny."

\* \* \*

"There is where the matter stands now. Men make war; God makes peace. Men kill one another; God saves them. A man falls overboard; if he is rescued, God saved him; if he drowns, he neglected to use the saving powers which God had offered. Until recent times, the Devil also played a large part in man's affairs. He did the bad things and God did the good things. This division of labor was in effect until recent years when the Devil was laughed out of the picture."

\* \* \*

"Wealth and privilege, associated with a sense of guilt, are sensitive and fearful, and easily moved to violent acts of self defense."

\* \* \*

"There are innate in the human character certain qualities that are constant in all races, nor are they destroyed by beliefs. Kindness, charity, a sense of justice, and a willingness to help the needy are eternal as well as natural in man. The Christianity has disposed people to do for others. Its history is filled with noble examples of self-sacrifice, heroism, and help of the needy. It exalts kindness both in theory and in action. No major class of people practice consideration of others to the degree practiced by those professing Christianity. Among most other sects, a sick or aged person lying by the wayside does not elicit the same degree of sympathetic attention of the passerby. Among the Christian nations, such need calls for help, expects help. This may be said to be the practical quality of Christianity. It is a quality that has had much to do with advancement of medicine among the western peoples."

\* \* \*

"Quackery is largely a reflection of the mass mind. In the field of political action, Edmund Burke said, 'There never was for any long time a corrupt representation of a virtuous people, or a mean,

\*The Doctor and the Public; A study of the sociology, economics, ethics, and philosophy of medicine, based on medical history. By James Peter Warbasse, M.D., author of "Surgical Treatment," "The Conquest of Disease," "Medical Sociology," "Coöperative Democracy," etc. Illustrated. Paul B. Hoeber, Inc., New York.

sluggish, careless people that ever has a good government of any form.' The character of the people is reflected in the representatives. This is true of medicine. Where quacks and quackery prevail, we may know that the public itself is rife with charlatanism. An ignorant, money-seeking people invite quackery because they themselves are steeped in quackery. An enlightened community demands and breeds good doctors. The promotion and appreciation of medical science and practice are an index of human progress."

These extracts are a sample of the pregnant paragraphs that appear as comments throughout the work.

The author believes that a medical education is broad enough to qualify the possessor in other things. It enables one to understand the physical self: It should promote the habit of the scientific method of thought. It develops or should develop the power to understand. He believes that the medical approach is as applicable to social, business and national affairs as to the bedside. Examination, diagnosis and treatment might be applied logically and rationally to the sick world.

*The Doctor and the Public* implies a confidential relationship. The public should be taught as much as it is capable of comprehending, of the structure and functioning of the various organs and systems of the body. The author would have human dissections taught in high school. Such instruction would in a generation or so eliminate quackery as well as rid men and women of the squeamishness and ignorant morbidity that characterizes their present attitude towards a dead human body. Medicine should be shorn of its mystery. The ghosts are best driven out by opening the doors and letting in the light. There is nothing in medicine that puts it beyond the lay mind. Any mysteries that may appear to accompany it are the mysteries of all learning; once mastered, the mysterious becomes elementary.

Dr. Warbasse goes on to say that the quality of doctors would be improved by adding social thinking to their training. This may be done by a course in medical history properly taught. He would not be content with the presentation of bare facts, names, events, dates and places. Medical history should include medical philosophy, medical ethics, and medical economics. If we may interpret philosophy in not too strict a sense, that is what Dr. Warbasse has done in this fascinating volume. He

who knows only medicine knows not even medicine.

Under a section "Medicine as a Business," the author goes into the history of the doctor's honorarium, but concludes that he who looks upon his fee as his chief reward is a poor specimen. He quotes John Hunter's famous regret at the commercial side of medicine, "I must go out and earn that damned guinea. I shall be sure to want it tomorrow." In 1929, when prosperity in this country was at its height, and the average of net incomes of physicians in private practice was \$5,300, for every physician who had a net income over \$10,000, there were two whose net incomes were less than \$2,500. In 1928 half the families of the United States had incomes less than \$2,000. In 1926 the per capita income was \$735. These sums have been greatly reduced during the last six years so that in thousands of instances they have been completely wiped out. These data constitute the sources from which the doctor must derive his income. Corollary to this the author goes on to maintain that medicine is coming to be looked upon more and more as a social possession. Paradoxical as it might seem, Dr. Warbasse would have many more, rather than fewer, physicians than we now have and he would have them organized so as to be continually busy practicing preventive medicine. There are about three and one-half millions of people in the United States constantly ill with incapacitating disease. These, it goes without saying, are parasites on society. They impose a burden upon those who might be better occupied. The medical profession might better give its attention to those who are well and thus prevent them from becoming incapacitated. While the socialization of medicine tends to remove physicians from business competition with one another, Dr. Warbasse does not favor it inasmuch as it would place medicine under political control. He favors forms of group practice on a large scale where the patient may obtain the advantage of the "composite doctor."

He suggests physicians organizing as companies or profit-sharing corporations with the income divided among the members. He makes it clear that the practice of medicine must be wholly within the control of doctors, that no third party in the



way of lay business management must be permitted to intervene. The author would insure doctors a measure of economic security by awarding them incomes of \$4,000 to \$7,000 dollars a year without any professional overhead.

We fear the solution of the medical problem, whatever it may be, cannot be accomplished so easily.

### INTERSTATE MEDICAL ASSEMBLY

As already announced in this JOURNAL, the twentieth anniversary assembly of the Interstate Post Graduate Medical Assembly will be held in Detroit at the Masonic Temple on October 14, 15, 16, 17 and 18. In addition to the scientific program which is presented in this number of the JOURNAL, there will be large technical and scientific exhibit, which will also be housed conveniently in the exhibition halls of the Detroit Masonic temple. The various local committees in charge of the arrangements have left nothing undone to contribute to the comfort and entertainment of the guests. The program is as follows:

---

#### Pre-Assembly Clinics, October 12 Post-Assembly Clinics, October 19 Detroit Hospitals

---

**Monday, October 14, 8:00 A. M.**

Diagnostic Clinic: "Anemia."

**Dr. Cyrus C. Sturgis**, Professor of Internal Medicine, University of Michigan Medical School, Ann Arbor, Mich.

Diagnostic Clinic: "Peptic Ulcer."

**Dr. Donald C. Balfour**, Professor of Surgery, University of Minnesota Graduate School of Medicine, Rochester, Minn.

Diagnostic Clinic: "Types of Edema and their Treatment."

**Dr. Henry A. Christian**, Hersey Professor of the Theory and Practice of Physics, Harvard University Medical School, Boston, Mass.

Diagnostic Clinic: "Factors Influencing the Healing of Fractures."

**Dr. William Darrach**, Dean Emeritus and Professor of Clinical Surgery, Columbia University College of Physicians and Surgeons, New York, New York.

Address: "Pneumonias of Childhood."

**Dr. Charles H. Smith**, Professor of Pediatrics, University and Bellevue Hospital Medical College, New York, N. Y.

#### Noon Intermission

**1:00 P. M.**

Diagnostic Clinic: "Headache."

**Dr. Elliott C. Cutler**, Moseley Professor of Surgery, Harvard University Medical School, Boston, Mass.

Address: "Plastic Operations on the Lower Urinary Tract for Congenital Deformities."

**Dr. Hugh H. Young**, Professor of Urology, Johns Hopkins University School of Medicine, and Director of the Brady Urological Institute, Johns Hopkins Hospital, Baltimore, Md.

Address: "Lead Poisoning in Children."

**Dr. Harold B. Cushing**, Clinical Professor of Pediatrics, McGill University Faculty of Medicine, Montreal, Canada.

Address: "Hyperplastic Tuberculosis of the Large Bowel, its Diagnosis, Treatment and Prognosis."

**Dr. Fred W. Rankin**, Lexington, Ky.

Address: "Diagnosis and Treatment of Diseases of the Esophagus."

**Dr. Gabriel Tucker**, Professor of Bronchoscopy and Laryngological Surgery, University of Pennsylvania Graduate School of Medicine, Philadelphia, Pa.

Address: "Indications for and Advantages of Vaginal Hysterectomy."

**Dr. Alexander W. Blain**, Professor of Surgery, Wayne University College of Medicine, Detroit, Michigan.

#### Dinner Intermission

**7:00 P. M.**

Address: "Thoracic Surgery."

**Dr. George J. Heuer**, Professor of Surgery, Cornell University Medical College, New York, N. Y.

Address: "A Critical Estimate of the Value of Laboratory Procedures in Disorders of Metabolism."

**Dr. John P. Peters**, John Slade Ely Professor of Medicine, Yale University School of Medicine, New Haven, Conn.

Address: "Tendon Transplantation in the Lower Extremity."

**Dr. Frank R. Ober**, Assistant Dean, Harvard Medical School Course for Graduates; Clinical Professor of Orthopedic Surgery, Harvard University Medical School, Boston, Mass.

Address: "Hyperthyroidism in Patients over Fifty Years of Age."

**Dr. Charles A. Elliott**, Professor of Medicine, Northwestern University Medical School, Chicago, Ill.

**Tuesday, October 15, 8:00 A. M.**

Diagnostic Clinic: "Tuberculosis."

**Dr. James A. Miller**, Professor of Clinical Medicine, Columbia University College of Physicians and Surgeons, New York, N. Y.

Diagnostic Clinic: "The Prostate Gland."

**Dr. William E. Lower**, Cleveland Clinic, Cleveland, Ohio.

Diagnostic Clinic: "Chronic Arthritis."

**Dr. Russell L. Cecil**, Professor of Clinical Medicine, Cornell University Medical College; Professor of Internal Medicine, New York Polyclinic Medical School and Hospital, New York, New York.

Diagnostic Clinic: "Diverticulitis and Diverticulosis."

**Dr. John F. Erdmann**, Attending Surgeon of the New York Post Graduate Hospital and Medical School, New York, N. Y.

Address: "The Present Status of Bronchoscopy in Bronchial Asthma."

**Dr. Louis H. Clerf**, Professor of Bronchoscopy and Esophagoscopy, Jefferson Medical College of Philadelphia, Philadelphia, Pa.

*Noon Intermission*

1:00 P. M.

Diagnostic Clinic: "Diseases of the Skin in Infancy and Childhood."

**Dr. Howard Fox**, Professor of Dermatology and Syphilology, University and Bellevue Hospital Medical College, New York, N. Y.

Address: "Diphtheria Prevention, Methods and Results."

**Dr. John G. Fitzgerald**, Dean and Professor of Hygiene and Preventive Medicine, University of Toronto Faculty of Medicine, Toronto, Canada.

Address "Empyema."

**Dr. Charles R. Austrian**, Associate Professor of Medicine, Johns Hopkins University School of Medicine, Baltimore, Md.

Address: "Diagnosis and Treatment of Surgical Lesions of the Spinal Cord."

**Dr. Alfred W. Adson**, Professor of Neurosurgery, University of Minnesota Graduate School of Medicine, Rochester, Minn.

Address: "The Differential Diagnosis of the Major Psychoses."

**Dr. Clarence B. Farrar**, Professor of Psychiatry, University of Toronto Faculty of Medicine, Toronto, Canada.

Address: "Interrelationship of Mother and Fetus."

**Dr. Fred L. Adair**, Professor of Obstetrics and Gynecology, The School of Medicine of the Division of Biological Sciences, University of Chicago, Chicago, Ill.*Dinner Intermission*

7:00 P. M.

Address: "The Surgical Treatment of Cranio-Cerebral Injuries."

**Dr. Loyal Davis**, Professor of Surgery, Northwestern University Medical School, Chicago, Ill.

Address: "Conceptions of Diabetes as Modified by Recent Studies of the Hypophysis and the Adrenals."

**Dr. David P. Barr**, Busch Professor of Medicine, Washington University School of Medicine, St. Louis, Mo.

Address: "The Water Balance of the Surgical Patient."

**Dr. Frederick A. Collier**, Professor of Surgery, University of Michigan Medical School, Ann Arbor, Mich.

Address: "The Importance of Dietetics in Modern Medicine."

**Dr. Robert W. Keeton**, Professor of Medicine and Head of the Department, University of Illinois College of Medicine, Chicago, Ill.

---

Wednesday, October 16, 8:00 A. M.

Diagnostic Clinic: "Deficiency Diseases of Children."

**Dr. Alan G. Brown**, Associate Professor of Medicine (Pediatrics), University of Toronto Faculty of Medicine, Toronto, Canada.

Diagnostic Clinic: "Infections of the Kidney and Ureter."

**Dr. Hugh Cabot**, Professor of Surgery, University of Minnesota Graduate School of Medicine and Consulting Surgeon at the Mayo Clinic, Rochester, Minn.

Diagnostic Clinic: "The Gallbladder."

**Dr. David Riesman**, Professor of Clinical Medicine, University of Pennsylvania School of Medicine, Philadelphia, Pa.

Diagnostic Clinic: "Complications of Late Pregnancy."

**Dr. John R. Fraser**, Professor of Obstetrics and Gynecology, McGill University Faculty of Medicine, Montreal, Canada.

Address: The Present Status of our Knowledge of the Suprarenal Cortical Hormone."

**Dr. George A. Harrop**, Associate Professor of Medicine, Johns Hopkins University School of Medicine, Baltimore, Md.*Noon Intermission*

1:00 P. M.

Diagnostic Clinic: "Benign Tumors of the Breast."

**Dr. Edward J. Klopp**, Professor of Surgery, Jefferson Medical College of Philadelphia, Philadelphia, Pa.

Address: "Influence of the Anesthetic on the Risk of Operation."

**Dr. George P. Muller**, Professor of Clinical Surgery, University of Pennsylvania Graduate School of Medicine, Philadelphia, Pa.

Address: "Fracture of the Neck of the Femur."

**Dr. Dallas B. Phemister**, Professor of Surgery, The School of Medicine of the Division of the Biological Sciences, University of Chicago, Chicago, Ill.

Address: "Acute Appendicitis in the Extremes of Life."

**Dr. Urban Maes**, Professor of Surgery, Louisiana State University Medical Center, New Orleans, La.

Address: "Studies in Abdominal Pain."

**Dr. Frederick J. Kaltefleiter**, Clinical Professor of Medicine, Jefferson Medical College of Philadelphia, Philadelphia, Pa.

Address: "Traumatic Subdural Hematoma."

**Dr. William James Gardner**, Cleveland Clinic, Cleveland, Ohio.

## ASSEMBLY DINNER

For members of the profession, their ladies and friends.

7:00 P. M.

**Dr. Charles H. Mayo**, Master of Ceremonies

Observance of the Twentieth Anniversary of the Inter-State Postgraduate Medical Association of North America

Address:

**The Honorable Herbert A. Bruce**, Lieutenant Governor of Ontario, Toronto, Ontario, Canada.

Address:

**Rear-Admiral Cary T. Grayson**, Chairman, The American Red Cross, Washington, D. C.

---

Thursday, October 17, 8:00 A. M.

Diagnostic Clinic, "Psychoses Associated with Organic Brain Disease."

**Dr. Louis J. Karnosh**, Assistant Clinical Professor of Nervous Diseases, Western Reserve University School of Medicine, Cleveland, Ohio.



Diagnostic Clinic: "Differential Diagnosis between Gastric and Duodenal Ulcer and Gall Stones."

**Dr. William D. Haggard**, Professor of Clinical Surgery, Vanderbilt University School of Medicine, Nashville, Tenn.

Diagnostic Clinic: "Ménier's Disease."

**Dr. Walter E. Dandy**, Adjunct Professor of Neurological Surgery, Johns Hopkins University School of Medicine, Baltimore, Md.

Diagnostic Clinic: "Cardiac Diseases."

**Dr. Harlow Brooks**, Emeritus Professor of Clinical Medicine, New York University and Bellevue Hospital Medical College, New York, N. Y.

Address: "Treatment of Hyperinsulinism."

**Dr. E. Starr Judd**, Professor of Surgery, University of Minnesota Graduate School of Medicine, Rochester, Minn.

#### *Noon Intermission*

1:00 P. M.

Diagnostic Clinic: "Conditions Producing Splenomegaly."

**Dr. Campbell P. Howard**, Professor of Medicine, McGill University Faculty of Medicine, Montreal, Canada.

Diagnostic Clinic: "Obstructive Jaundice."

**Dr. Waltman Walters**, Associate Professor of Surgery, University of Minnesota Graduate School of Medicine, Mayo Clinic, Rochester, Minn.

Address: "Low Back Disability."

**Dr. Wallace S. Duncan**, Cleveland, Ohio.

Address:

**Dr. Charles H. Mayo**, President of Inter-State Postgraduate Medical Association of North America, Rochester, Minn.

Address: "Trigeminal Neuralgia."

**Dr. Charles H. Frazier**, John Rhea Barton Professor of Surgery, University of Pennsylvania School of Medicine and Professor of Neurologic Surgery, University of Pennsylvania Graduate School of Medicine, Philadelphia, Pa.

Address: "Bacterial Endocarditis."

**Dr. Ralph A. Kinsella**, Professor of Internal Medicine, St. Louis University School of Medicine, St. Louis, Mo.

Address: "The Treatment of Diseases of the Nasal Sinuses in Infants and Young Children."

**Dr. Lee W. Dean**, Professor of Otolaryngology, Washington University School of Medicine, St. Louis, Mo.

#### *Dinner Intermission*

7:00 P. M.

Address: "Diseases of the Thyroid Gland."

**Dr. James H. Means**, Jackson Professor of Clinical Medicine, Harvard University Medical School, Boston, Mass.

Address: "Agranulocytosis."

**Dr. Russell L. Haden**, Chief of the Medical Division, Cleveland Clinic, Cleveland, Ohio.

Address: "A Decade's Advance in Ophthalmology." The Joseph Schneider Foundation Presentation.

**Dr. William H. Wilmer**, Professor Emeritus of Ophthalmology, Johns Hopkins University School of Medicine, Baltimore, Md.

Address: "Diagnosis and Treatment of Cancer of the Lip, Mouth and Throat."

**Dr. Arthur C. Christie**, Professor of Clinical Radiology, Georgetown University Medical School, Washington, D. C.

Friday, October 18, 8:00 A. M.

Diagnostic Clinic: "Traumatic Surgery of the Knee."

**Dr. John J. Moorhead**, Professor of Clinical Surgery, New York Post Graduate Medical School, New York, N. Y.

Diagnostic Clinic: "Diabetes."

**Dr. Elliott P. Joslin**, Clinical Professor of Medicine, Harvard University Medical School, Boston, Mass.

Diagnostic Clinic: "Malignant Tumors of the Breast."

**Dr. Dean D. Lewis**, Professor of Surgery, Johns Hopkins University School of Medicine, Baltimore, Md.

Diagnostic Clinic: "Hypertension."

**Dr. George Crile**, Cleveland Clinic, Cleveland, Ohio.

Diagnostic Clinic: "Deficiency Diseases in Adults."

**Dr. William Gerry Morgan**, Dean and Professor of Gastro-Enterology, Georgetown University School of Medicine, Washington, D. C.

#### *Noon Intermission*

1:00 P. M.

Diagnostic Clinic: "Obstructive Lesions of the Bladder."

**Dr. Joseph F. McCarthy**, Professor of Clinical Urology, Executive Officer of the Department of Urology, New York Post Graduate Medical School, Columbia University, New York, N. Y.

Address: "The Stomach's Response to the Menu."

**Dr. T. Wingate Todd**, Henry Willson Payne Professor of Anatomy, Western Reserve University School of Medicine, Cleveland, Ohio.

Address: "Further Advances in our Knowledge of the Thymus and Pineal Glands."

**Dr. Leonard G. Rowntree**, Director Philadelphia Institute for Medical Research, Philadelphia, Pa.

Address: "The Diagnosis and Treatment of Surgical Lesions of the Pancreas."

**Dr. Irvin Abell**, Clinical Professor of Surgery, University of Louisville School of Medicine, Louisville, Ky.

Address: "The Diagnosis and Management of the Septic Appendix."

**Dr. W. Wayne Babcock**, Professor of Surgery and Clinical Surgery, Temple University School of Medicine, Philadelphia, Pa.

Address: "Surgical Treatment of Gall Stones."

**Dr. Frank H. Lahey**, Director of Surgery in the Lahey Clinic; Surgeon to the New England Baptist Hospital and New England Deaconess Hospital, Boston, Mass.

#### **Foreign Acceptances to Date:**

**Professor Nikolaj Burdenko**, University Surgical Clinic, Moscow, USSR.

**Professor N. Krasnargorski**, Children's Clinic, Medical Institute, Leningrad, USSR.

#### **Tentative:**

**Professor Alfred Luger**, Medical Department, University of Vienna, Vienna, Austria.

**Mr. David P. D. Wilkie, F.R.C.S.**, Professor of Surgery, University of Edinburgh, Edinburgh, Scotland.

There will be frequent opportunities to visit the Exhibits.

*NOTE—There will be pre-assembly and post-assembly clinics at all the Detroit hospitals to be given on October 12 and October 19. Programs will be available at the various hospitals on those dates.*

# DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

## OFFICERS FOR 1935-1936

The officers of the Michigan State Medical Society for the year 1935-1936 are as follows:

President, Dr. Grover Penberthy, Detroit; President-Elect, Dr. H. E. Perry, Newberry; Chairman of the Council, Dr. Henry Cook, Flint.

The Executive Committee of the Council is as follows:

Chairman, Dr. Henry Cook, Flint; vice chairman, Dr. T. F. Heavenrich, Port Huron; Dr. C. E. Boys, Kalamazoo; Dr. A. S. Brunk, Detroit; Dr. H. R. Carstens, Detroit; Dr. F. H. Reeder, Speaker, Flint.

Delegates to the American Medical Association are:

Delegate—Dr. L. J. Hirschman (re-elected), Alternates, Dr. Ralph Pino, Detroit; Dr. George Currie, Flint; Dr. F. L. Foster, Bay City.

The place of meeting for 1936 is Detroit.

## FEDERAL SURVEY OF CHRONIC ILLNESSES

A gigantic health inventory of the country will get under way on October 15. With an appropriation of \$3,450,000 of WPA money, the United States Public Health Service will begin a house to house canvass of 750,000 families selected as representative of the general population. Michigan is one of the nineteen states that has been chosen for this survey. The objective is to determine how many people suffer from physical disability or chronic illness, their geographic distribution, and the effect of this disability on the economics of the family.

The last two decades has seen a tremendous increase in the number of individuals of middle age and over. It probably is well that accurate statistics be obtained, since the presence of this large and increasing group must exert a tremendous influence on the general economic problem which the country, and especially industry, is called upon to face. In addition to specified chronic illnesses, data will be collected on other types of physical disability of sufficient severity to handicap the individual.

Undoubtedly the survey will extend beyond this house to house canvass, and other avenues of information will be used. As in

other activities under the New Deal, one has the feeling that the promoters are thinking more in terms of the opportunity to give relief through employment than in the value of the objective. Three and a half million dollars is a lot of money. One has the feeling that there are many ways of spending that money in health work or even in more highly concentrated surveys which would give greater returns, dollar for dollar.

## HIGH SCHOOLS DEBATE

RESOLVED: That the several states should enact legislation providing for a system of complete medical service available to all citizens at public expense.

This is the subject chosen for this year's debate in high schools and colleges by the representatives of the cooperating members of the National University Extension Association.

For several years now we have been conscious of an effort, apparently stimulated by some outside source, looking towards the discussion of this particular subject. You may remember the effort made some years ago to bring this subject into the Detroit schools. We were convinced at that time that it was a definite propagandist effort, and, while we felt that such a subject was perfectly suitable for a college debating society, we did not feel that the high school student was sufficiently far along in his intellectual development to adequately undertake such a complicated sociological study. However, since the National Association has finally decided to sponsor this subject it is distinctly our responsibility to see that adequate material for the study of the proposition from the standpoint of the profession be presented to the prospective debaters.

The Bureau of Economics of the American Medical Association has prepared an article on the negative argument, and this article will appear in the official Hand Book of the National University Extension Association. Your secretary has had many requests for material from various parts of the country. The writers have been referred to the American Medical Association, which



has made available for free distribution to debaters many publications of the Bureau of Medical Economics. With so much being written on this subject in popular magazines, and the voluminous material published by the Committee on the Costs of Medical Care, much of which is specious, but to the superficial or untrained student quite plausible, it is perhaps well that this debate be presented. We agree with *Minnesota Medicine* (September, 1935), which says:

"Unfortunately the affirmative in this case is quite likely to make an appeal to young debaters who are full of humanitarian ideals without any experience in life whatever. It is obviously the duty of organized medicine, which has taken its stand as opposed to the 'Provision of Medical Care for all the People at Public Expense,' to provide the best possible material for the assistance of those who will defend the negative in this proposition."

### "HEADLINES AND COMMENTS"

Headlines—"UNCLE SAM TAKES DOORBELL CENSUS"—(By Associated Press)—Washington, Aug. 28.—Uncle Sam will start ringing 750,000 doorbells Oct. 15 to ask the family, "How's your health?" As announced by the U. S. Public Health Service, in July, this work is set forth to be a survey of health conditions with special reference to chronic diseases and physical impairments. Obviously, any such inquiry should take account of mental states which result from unemployment and unhappy economic conditions. The survey will be conducted by 6,000 white collar workers, selected from relief rolls. The funds, \$3,450,000, are to come from Federal Employment allotments. It is admitted that information thus obtained in widely separated cities, will exceed in scope anything heretofore attempted, and, if conducted by trained personnel adequately supervised by medical men, might yield information from which certain conclusions may be drawn. The Committee has not been informed as to whether the U. S. Public Health Service will have sufficient personnel to adequately supervise this work, or if it will ask the coöperation of local medical societies in directing the study. If given over to lay groups without medical direction, the influence of possible personal bias and the use of investigators whose principal qualification may be that of being unemployed would materially color the data. Lack of medical experience, and the acceptance of statements from individuals interviewed, without an opportunity to check their validity from other sources, would make the results of little value. Instead of helpful information, the profession may again be forced to combat a fog of misinformation and harmful propaganda arising therefrom.

Headlines—"INSURANCE FOR HEALTH STUDIED"—Next Congress May Get Federal Plan.—(Copyright 1935 by United Press.)—Washington, Aug. 29.—A broad program of health insurance to round out the administration's sweeping social security system is being studied with a view to congressional action next session."

"The social security act, designed to safeguard 25,000,000 working Americans against old age destitution and unemployment, failed to make provision for economic protection against sickness."

"One reason was the controversial character of proposed plans by which the ill worker could get medical treatment on a low cost federally aided basis in return for a yearly contribution from his wages. Medical societies in many instances have charged it would 'regiment' the profession."

"A more detailed study of the problem is now being made by administration figures." Upon what basis this "study of the problem" is being made was not stated.

Federal agencies are carrying on "sampling investigations" in various states, and with state authorities are preparing for further activities in compliance with the National Security Act. National lay groups, interested in the control of certain diseases, are said to be planning greater activity on the basis of information to be obtained. Local lay groups have been stimulated to greater activity along health lines, apparently for the purpose of insuring participation by the states to the maximum of federal allotment.

Individuals who have not had any illness and have not had any health examination are included, in some statistics advanced, among those reported as not having had needed medical care. Although need of adequate health service to prevent illness was advanced as a basis upon which sickness insurance was established in European countries, morbidity and mortality statistics and incidence of preventable disease do not reflect any superior state of public health as compared to America. There is much to suggest that many of those who did not have any medical care did not wish it, and that the major portion of the remaining number did not believe it necessary. It is not proven that any large portion of this group were unable to obtain such service because of inability to pay. Where such periodic health examinations are advanced as an argument for new systems, it would be well for the medical profession to emphasize to the public that not only has it advised periodic health examinations, but that it is ready to make such examinations as public welfare requires and that no need exists for the establishment of a public agency for that purpose. Personal interest is necessary in periodic health examinations if the patient is to have guidance in his intimate problems. Mass examinations lack this, and possess the potentialities of enlarged objectionable sickness insurance machinery.

### SELF SURVEY

It must be recognized that medical service will, during the coming winter, be surveyed from the most critical and in some instances unsympathetic viewpoint. Statistical and quasi-statistical information will be forthcoming. It would therefore seem wise that the respective state associations give attention to the status of medical service and the facilities and quality of medical care offered, in order that ill-judged conclusions may be successfully controverted. Programs for the coming winter are being prepared in local societies and at least one state is already giving consideration to a state-wide program emphasizing special investigation and concentrated study of the problem of early

diagnosis and early treatment of some of the principal causes of death.

The weakest medical units, be they individuals or organizations, may determine the pattern of reaction entertained by the lay public toward physicians. It will be said of them, that they are stubborn and selfish—past years of unselfish service will meet that accusation. The profession may well be proud of its background of brilliant achievement, and there must be no basis developed, upon which it may be charged that the level of medical service offered to the average man is below desirable standards by reason of negligence or incompetence of medical men.

Committee on Legislative Activities  
of the American Medical Association.

## ON REGIMENTATION AND BUREAUCRACY

Dr. Alfred P. Sloan, Jr., commenting on the Supreme Court decision anent the NRA, said, among other things: "Sooner or later we are bound to recognize that regimentation and bureaucracy have no part in our national economy. They can only produce one result—lowered efficiency, increased costs, and reduced standard of living." And that goes double for any attempt to socialize medicine or to regiment the profession in a compulsory health insurance scheme.

Senator William E. Borah says:

"With bureaus or departments, the appetite increases with what it feeds upon. It is well to remember that the taxpayer is the same for the state taxes as for the Federal Government. It makes little difference whether one government, the state or the federal, imposes the tax. There is only one people to take care of both taxes. We should not expend a dollar, nor impose a single item of expense upon the people of this country until relief from taxes is in sight."

Attorney General Crim says: "The Department of Justice is staggering under the load imposed by sumptuary and police laws—laws that within all common sense fall within the natural sphere of local governments. Unless there is a halt in this tendency to saddle all responsibilities on the Federal Government, the time will come when we will have in Washington, a bureaucracy knowing no master—and one day the country will be in ruins."

Charles Evans Hughes, when he was Secretary of State, told the members of the American Law Institute in convention at Washington:

"We have in this country the greatest law factory the world has ever known. Forty-eight states and the Federal Government are turning out each year thousands of new laws while at the same time the courts in the performance of judicial duty are giving us thousands of precedents—175,000 pages of decisions in a single year, an average of 12,000 or more statutes every year, and an annual average of 13,000 or more permanently recorded decisions of highest courts."

The danger which every republic should fear is over-centralization, with the subsequent substitution or domination by one man for the rule of the people. Germany is the historic symbol of absolutism.

We have recently concluded a war, undertaken, we are told, that democracy might not perish from the earth. If this is true, to attempt to centralize in Washington the management of affairs that belong rightfully to the respective states is to create a system that cannot but destroy democracy among our people by betrayal of principles which are the fundamentals for the maintenance of government.

The centralization of power, whether in industry, commerce, education or the trades or professions or other factors entering into affairs of our everyday life amounts to this: that if we grant to an individual the power to make standard or be the sole authority to revise, abolish, or fix conditions under which the people of the future have to live, work and be educated, we set up an oligarchy which will create and foster bolshevism.—From *Illinois Medical Journal*, Sept., 1935.

## PRESENT STATUS OF THE CARE OF AFFLICTED CHILDREN IN MICHIGAN\*

### Afflicted Children's Act

Act No. 274 of 1913

As amended by

Public Laws of 1933	No. 248
Public Laws of 1934	No. 5
Public Laws of 1935	No. 94
Public Laws of 1935	No. 208

*Section 1.*—Whenever any agent of the State Welfare Commission, a supervisor, superintendent of the poor, or physician, shall find within his county any child below the age of twenty-one years who is afflicted with a malady which can be remedied, or is pregnant, and whose parents or guardians are unable to provide proper care and treatment, it shall be the duty of such agent, supervisor, superintendent of the poor, or physician to make a report of such condition to the probate judge of the county in which such child resides. Upon the filing of such a report with the judge of probate, he may make such investigation and examination as he may deem necessary.

*Section 2.*—If upon investigation the Judge of Probate is satisfied that such child is an afflicted child as defined in this Act and that the parents or guardians are unable to provide proper medical or surgical treatment, and the physician appointed to make the examination shall certify that, in his opinion, the malady is of such a nature that it can be remedied, the Judge of Probate may enter an order directing that said child be conveyed to any approved hospital in the State, for treatment, when such approved hospital is equipped and staffed to give proper treatment. Provided, That no such afflicted child shall be sent to or received into such hospital unless, in the judgment of the physician in charge thereof, there is a reasonable chance for him to be benefited by the proposed medical or surgical treatment, and for this purpose a complete history of the case shall be furnished by the examining physician. Provided further, That no crippled child as defined in Act No. 236 of 1927 shall be committed to any hospital under this Act, and that copies of all court orders be mailed by the court at once to the State of Michigan under the provision of Rules and Regulations provided for in this Act.

*Section 2.—(a) Provided further, that no child shall be committed to any hospital for medical or*

\*This report was prepared by a sub-committee of the Committee on Medical Economics at the request of President Smith and the Executive Committee. It was sent to each member of the House of Delegates but was not made a part of the report of the Committee on Medical Economics before the House. It will answer the many questions which are in the minds of members of the profession.—EDITOR.



*surgical treatment under this act until the parents or guardian of said child have entered into an agreement with the auditor general of the state of Michigan to the effect that they will repay the state of Michigan for the actual cost of such medical or surgical treatment on such terms as shall meet the approval of the Probate Judge. Said Auditor General shall furnish all blanks necessary for such agreement.*

*Section 3.—It shall be the duty of the Superintendent of said hospital upon receiving such child to provide a cot bed or room in the hospital and assign or designate the clinic of the hospital to which the patient shall be assigned for the treatment of the malady in each particular case, the care and treatment of such child and the physician or surgeon in charge shall proceed with all proper speed to perform such operation and bestow such treatment upon such child as in his judgment shall be proper.*

*Section 4.—No compensation shall be charged or allowed to the admitting physician or any physician, surgeon, or nurse who shall attend or treat any such child at the State University Hospital other than the salary or compensation paid to such person by the State University Hospital; provided, however, that reasonable compensation to be fixed, and audited by the state, and paid through the hospital as hereinafter provided, may be allowed to any physician or surgeon treating any such child at any such hospital other than the State University Hospital at Ann Arbor, Michigan; provided further, that the cost of transportation of such child to and from such hospital or the State University Hospital shall be paid by the county in which such child resides, and it shall be the duty of the County Treasurer to pay such transportation expense out of the general fund of the county upon receipt of the proper certificate of approval thereof from the Probate Court.*

*This act is ordered to take immediate effect.*

*Section 5.—The superintendent of the hospital shall keep a correct account of the costs of professional services, medicines, food and necessities furnished to said child, and shall make and file with the Auditor General an affidavit containing an itemized statement so far as possible such costs incurred at the said hospital in the treatment, nursing and care of said child in accordance with the rates fixed by the Auditor General.*

*Section 6.—Upon filing said affidavit with the Auditor General, it shall be the duty of said Auditor General forthwith to draw an order on the treasurer of the State of Michigan for the amount of such expenditure, and forward the same to such hospital. Provided, That no crippled child as defined in Act 236 of 1927 shall be entitled to free care to be paid for by the State under this Act.*

*Section 7.—The Michigan Crippled Children Commission shall have power, hereby conferred, in cooperation with the Michigan Legislative Council and the State Administrative Board, to administer this Act, and to adopt Rules and Regulations to carry out its provisions, if and when funds for that purpose have been made available to the Commission by the Legislature, the Legislative Council, or the State Finance Committee. It shall fix a reasonable schedule of compensation to be paid to any such hospital, physician or surgeon, approved to care for such committed children, for their maintenance, care and treatment and for their transportation to and from said Hospital, provided that no person in the employ of the State or any County shall be allowed any fee other than that provided by law, for such transportation in addition to actual traveling expense. All claims for compensation shall be itemized for each child and rendered monthly under oath to the Auditor General. When such claims are audited*

and found to be correct they shall be paid out of the general fund of the State.

(Prepared by Michigan Crippled Children Commission, June 11, 1935.)

### Historical Background

In 1881 the Michigan Legislature first provided for medical and surgical treatment and hospitalization of "dependent persons" free of charge at the University Hospital. In 1897 this policy was specifically extended to include children with birth deformities. Ten years later power was given to Probate Courts, "when the health or condition of the child shall require it" to place such child "in a public hospital or in an institution for special care or treatment" at county expense. Later, in Act 137 of 1921, the same courts were authorized to refer children to any "institution or hospital" with which the county board of supervisors may have contracted for service of this kind to be paid for from the general county fund.

The Afflicted Child Act of 1913 provided free treatment at State expense for deformed or afflicted children at the State University Hospital, when assigned there by order of the Probate Court. Portions of this act were repealed in 1927, especially those relating to the care of crippled children because the Crippled Children's Act was enacted in this year. However, many probate judges did not comply with the repeal section in the new act and continued to send crippled children to the University Hospital under the Afflicted Children's Act.

As amended by Act 248 of 1933, courts were authorized to order children into any approved hospital in the state. It also reduced the age limit from 21 to 18 years but the 21 year age was restored in 1934. Most important provision of the 1933 amendment was the delegation of responsibility to the Crippled Children Commission to carry out the provisions of the Afflicted Children's Act. Thus overnight, the Crippled Children Commission changed from a \$6,400.00 per year bureau, concerning itself with crippled children only, admitted to but one hospital, to a governmental agency controlling admissions to 78 hospitals and handling funds totalling over 2 million a year.

However, the 1933 act did not define "afflicted child," nor "crippled child" nor "approved hospital." And there were contradictions in its wording. Section 4 stated that fees for physicians or surgeons "shall be paid by the county," while in Section 7 it was provided that statements shall be rendered to the Auditor General and paid "out of the general fund of the State." Again, Section 5 provides that costs accounting shall be in accordance with "rates fixed by the Auditor General," but Section 7 provides that the "Michigan Crippled Children Commission shall fix a reasonable schedule of compensation."

These conflicts were compromised by the conference with the Auditor General and a plan of administrative procedure was written in "Rules and Regulations" and a "Fee and Rate Schedule" was adopted. In these the Commission defined "afflicted" and "crippled" children and "approved" hospitals. The fee schedule was worked out by the Commission and the Auditor General and two employees of the Commission are assigned to the office of the Auditor General. All costs are audited and paid out of the general fund of the State but the charges enumerated in Section 4 of the Act (transportation and physicians fees) are then allocated and recharged to the respective counties by the Auditor General.

The Commission divided hospitals into two groups in considering their applications for approval. All

those previously accredited by the American College of Surgeons were in the first, and all others in the second grouping. The first group were approved without any further investigation if physicians' and surgeons' fees were waived. If not, an agreement to repay the State for such fees was required with signatures of proper representatives of the hospital, the Probate Court and the County Board of Supervisors. The same procedure was used in the second grouping and in addition there was required the advanced approval of the County Medical Society and a statement signed by the County Medical Society showing what types of maladies in its judgment the hospital was equipped to efficiently and properly treat.

(Adapted from the Report of the Crippled Children Commission, Afflicted Children Division, December, 1934.)

### The Point of View of the Medical Profession

In any statistical study of medical and hospital care the physician plays an inanimate and inarticulate rôle. It is necessary for the reader of such a report to remind himself that the work represented by the figures was done by individual physicians and surgeons; that hospitals provide facilities—material, nursing, dietary, laboratory—but the medical care is rendered by medical men. To emphasize this point of view carries no implication of desired change in the tabulation of reports by the Crippled Children Commission. It is stated here because it is the point of view from which the doctor interprets those reports.

For the fiscal year 1933-1934,<sup>†</sup> as recorded in the report of the Crippled Children Commission, Afflicted Children Division, the following numerical facts are found of special interest:

1. Thirty-seven hospitals in twenty-eight counties had arrangements (which varied within wide limits) with local authorities permitting the Auditor General to pay physicians' and surgeons' fees and charge the amount paid back to the respective counties.

2. Forty hospitals in twenty-one counties had no such arrangement. Eleven of these are in Detroit. (Subsequently a similar arrangement was made in Wayne County.)

3. Where professional fees were allowed \$25,303.41 was paid to physicians of 1,138 children, an average of \$22.23 per case.

4. Professional fees were not allowed in the care of 3,068 children. At the rate of \$22.23 per case this would have amounted to \$68,201.64.

5. The Crippled Children Commission report that fees paid to orthopedists under Act 236 average \$32.04 per case, for the period 1932-1934.

6. At the University Hospital the per diem cost was a few cents less than the average throughout the state but the patient days were considerably more so that the average cost per case was \$63.97 at the University Hospital as compared with an average of \$55.85 in hospitals throughout the state.

### The Present Status

The Crippled Children Commission was established by legislative enactment in 1927, in response to a public demand concentrated especially in the Crippled Children's Society. This Society numbers about 1,200 members, many of whom are physicians. When, in 1933, the administration of the Afflicted Children's Act was placed in the hands of the Crippled Children Commission, the load on this organization was greatly increased. Whereas before the passage of the amendment in 1933, about 5,000 crippled children were handled through the Commission, there are now upwards of 20,000 crippled and afflicted both. A sufficient appropriation has never been voted to the Crippled Children Commission to adequately perform its augmented tasks. Large deficits have been incurred yearly and yet the staff is

not large enough to efficiently handle the increased load.

It should in fairness be stated that the Legislature in 1933 had no experience upon which to base an adequate appropriation. The regular appropriation made in 1933 was \$800,000.00 for the fiscal year 1933-34. For that same year the Commission spent \$1,300,000.00 in the administration of the two acts. This necessitated a deficiency appropriation of \$500,000.00. Of the total spent, about \$561,000.00 went for the care of Afflicted Children. For the year 1934-1935, \$1,365,000.00 has already been appropriated, \$800,000.00 as the regular appropriation and deficiency bills totaling \$565,000.00 were voted during two special sessions and it is estimated that there will still be a deficit of about \$200,000.00 up to June 30, of this year. The legislature of 1933 made a deficiency appropriation of approximately \$950,000.00 to the general fund, designated for the medical care of children, which, it was understood, was owing to the University Hospital for care under both acts for previous years.

Act 248 of 1933, an amendment of the Afflicted Child Act, provided for payment of physicians' and surgeons' fees by the county of residence of the child, payment to be made by the Auditor General and charged back to the county if the local Board of Supervisors had agreed to accept such charges. The present Act, No. 94, of 1935, provides for reasonable compensation to physicians to be paid by the State "if and when funds for that purpose have been made available to the Commission by the Legislature, the Legislative Council, or the State Finance Committee." Under Act 248 of 1933, the State paid 75 per cent of the cost of transportation of such children to and from approved hospitals, and the county paid 25 per cent; under the new Act the County pays 100 per cent of the transportation costs.

Act 103 of 1935, another amendment of the original Act 274 of 1913, provides that no child shall be committed for care until the parents or guardians shall have entered into an agreement to repay the costs of such commitment.

The appropriation for the year 1935-1936 is \$1,400,000.00, less 5 per cent, a cut imposed by the Governor, or \$1,330,000.00. Subtracting the estimated deficit of \$200,000.00, there will remain for 1935-1936, a working fund of \$1,130,000.00, and for 1936-1937, \$1,330,000.00.

Since the new bill carried no appropriation, the Crippled Children Commission proposed by resolution to ask the legislature for an additional appropriation of one million dollars, which sum was suggested by the Auditor General's Office, to cover the cost of the "reasonable compensation" to be paid to physicians as provided in the new bill. The Legislative Committee of the Michigan State Medical Society was asked to come before the Crippled Children Commission at its May meeting, at which time Mr. Wm. J. Lambert also made his appearance on behalf of an interested group of physicians of the state. At that time the Crippled Children Commission was persuaded to withdraw its proposed resolution asking for an increased appropriation, as necessitated by the provisions of the new bill. The Legislative Committee felt that the request for more money would prevent the passage of the bill as drawn and that physicians would take their chances on getting their money for the time being if only the principle of remuneration for services rendered could be established. The Commission expressed itself as anxious to cooperate with the profession in every way possible and withdrew its resolution.

Following the passage of the bill, but before it was signed by the Governor, the Legislative Committee was informed that the Governor expected the medical profession to stay within the limits of the appropriation. Fearing a possible veto the Commit-

<sup>†</sup>Reports for 1934-1935 not available at this time.



tee then unanimously passed and signed a resolution as the sense of the Legislative Committee of the Michigan State Medical Society giving approval of Schedule A as adopted by the Commission June 4, 1934, but recommending a reduction, in lieu of sufficient funds, up to 50 per cent of that schedule.

Following the signing of the enactment several meetings were held with the Auditor General and with a committee from the Council of the Michigan State Medical Society and the Crippled Children Commission. The Committee from the Council was appointed by Chairman Powers as observers without power to act. No further recommendations or conclusions have been arrived at. Confusion has been added by the contention that expenditures of funds for crippled children are illegal because appropriations have been made only under the old Afflicted Child Act. This has caused grave concern to the officers of the Crippled Children Society apprehensive lest their program developed through many years shall break down through lack of specific appropriation for the crippled child.

It is stated that the Governor intends to call together the Executive Committee of the Michigan State Medical Society and others in an attempt to work out a harmonious solution to this perplexing problem. In the meantime the Commission has funds at its disposal to pay only for hospitalization and administrative expense in the care of the afflicted child and it is questionable at this time if the amount will be sufficient even for these items, let alone the remuneration of the physician.

Your committee recommends that this Society view with approval the recognition, in a legislative enactment in this State, of the principle of payment to physicians for services rendered, and, in view of this recognition, and inasmuch as the Michigan Crippled Children Commission has demonstrated its willingness and desire to cooperate with the physicians of the state, your committee feels that this Society should likewise provide cooperation during the next two years to the fullest extent necessary.

Your committee further recommends that the Crippled Children Commission be asked to consider the qualifications of surgeons, other than those classified as orthopedists, in the assignment of certain types of cases under the Crippled Child Act. It would seem justifiable to assume that there are more than eleven men in Michigan qualified to care for cases of osteomyelitis, most fractures, and dislocations, of arthritis and to do amputations or other operations in cases of bone tumors.

## WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, President, Kalamazoo.  
MRS. F. M. DOYLE, Secretary, Kalamazoo.

### THE ATLANTIC CITY NATIONAL CONVENTION

The Thirteenth National Convention of the Woman's Auxiliary to the American Medical Association was held at Atlantic City, June 9 to 14, 1935. You really have to attend a National Convention to understand the thrill and gain the inspiration.

On Sunday evening, June 9, the Woman's Auxiliary to the Medical Society of Delaware gave a supper to the National Board at the Claridge Hotel in honor of Mrs. Robert W. Tomlinson, National President.

On Monday, June 10, the General Convention Committee meeting was held: 11:00 a. m., Pre-Convention Board meeting, Mrs. Tomlinson presiding; 1:00 p. m., buffet luncheon, Submarine Grill, Traymore Hotel; 2:30 p. m., Pre-Convention Board meeting at the Traymore Hotel, Mrs. Robert Tomlinson presiding. At 7:00 p. m., get-together dinner

was given at the Ritz-Carlton Hotel. Wilmer Krusen, M.D., Philadelphia, spoke on "The Doctor's Wife." Address of welcome was made by Mrs. Arthur Casselman, past president of the Woman's Auxiliary of the New Jersey State Medical Society. Artists participating in this program were: William Evans, distinguished American baritone; Maurice Braum, violinist; Joseph Vetere, cellist; Clarence Fuhrman, pianist. Arrangements were made by Camden and Union Counties.

On Tuesday, June 11, at 8:00 a. m., a southern breakfast was served in the Submarine Grill, Traymore Hotel. Guests of honor were: Mrs. Robert W. Tomlinson, Mrs. Rogers N. Herbert. Arrangements were made by Women's Auxiliary to the Southern Medical Association. 9:00 a. m., General Meeting, Library Room, Traymore Hotel, Mrs. Robert Tomlinson, presiding. Invocation, Henry Merle Mellen. Address of Welcome, Mrs. James Hunter, New Jersey. Response, Mrs. William Salasin, Atlantic City, New Jersey. She reported 1,800 members, 514 guests, one guest from England. Report of committee of credentials and registration, Mrs. H. Roy Van Ess, Newark, New Jersey. Roll call of state auxiliaries, Mrs. Elmer T. Whitney, Michigan, recording secretary. Minutes of the Twelfth Annual Meeting. President's report, Mrs. Robert Tomlinson, followed by reports of National officers and standing committeemen. 1:00 p. m., Hackney's famous sea-food luncheon, entertainment and musical program. Choice of chair ride on the Board Walk, sailboat ride, or sight-seeing trip. 4:00 p. m., musical and tea, Woman's Auxiliary of Philadelphia County Medical Society. Miriam E. Barbash Ensemble, Danse, Blanch Deutscher; baritone, Malcolm Bowen; Instrumental Trio, violinist Miriam E. Barbash, 'cellist, Marie Hollenbach, pianist, Gertrude Kirsteen. 8:00 p. m. Opening of General Meeting of Eighty-sixth Annual Session of American Medical Association. Within the main auditorium has been constructed the largest stage in the world, 110 feet in width, 85 feet in depth. The largest pipe organ in the world, both in size and power, is housed in the main auditorium. The lighting of Convention Hall is a triumph of light and illumination. The hues of the sea and sky predominate through the medium of an original principle, the lighting of the stage and auditorium have been designed to permit not only the usual projections and special display of featured objects, but also an unlimited showing of color effects. The program was as follows: Music, William Jackson, Convention Organist. Call to order by the President, Walter Bierring. Invocation, Rev. Walter Bruggeman, Community Church. Welcome to Atlantic City, Hon. Harry Bacharach, Mayor of Atlantic City, C. Coulter Charlton, President of Atlantic County Medical Society, Marcus W. Newcomb, President of Medical Society of New Jersey. Announcements, William J. Carrington, Chairman of Local Committee on Arrangements. Address, Hon. Walter Edge, Ex-Senator and former ambassador. Vocal selections, Harry Prosser, Welsh tenor. Introduction and installation of President-elect, James S. McLester, Birmingham, Alabama. Address, "The Breath of Life," J. C. Maekins, President of Canadian Medical Association. Address, "Nutrition and Future Man," James S. McLester, president of American Medical Association. Presentation of Medal to retiring President, Walter L. Bierring, J. H. J. Upham, Chairman of the Board of Trustees. Vocal selections, Westminster Chorus, Princeton, N. J.

Wednesday, June 12, 1935, 9:00 a. m., general meeting, Library Room, Traymore Hotel, Mrs. Tomlinson, presiding. Reading of minutes of previous meeting. Reports of state presidents, three minutes to each.

This was the high spot of the convention as regards the year's endeavors; it is the time when the

spotlight directs its rays on the year's accomplishments. Through the pioneering years of our national organization, states have been crying for something tangible, something definite, something comprehensible to anchor to. The National officers have been struggling to formulate programs of health education to fit the needs of all. Our object: (1) to assist in the entertainment of all American Medical Associations' Convention. (2) To extend the aims of the medical profession to all organizations which look to the advancement of health and education. (3) To promote acquaintanceship among physicians' families that fellowship may increase. (4) To do such work as may be approved from time to time by the American Medical Association cannot fail to inspire the earnest coöperation.

I was very proud to tell of the self-education program carried out by Wayne County, Grand Rapids, with her fine, peppy group, crying for information. Jackson, under able leadership, having enlightening lectures. Saginaw, a course of talks by Board of Health Director. Bay City, with a large social group ready to swing into action. Calhoun bringing in Michigan second to Wisconsin on Hygeia. It would have been most gratifying to you, Calhoun, to have seen the pleased expression on the face of our former State President and National Recording Secretary, Mrs. Elmer Whitney, when the fact was brought out in the National Treasurer's Report. With much pride did I present the facts that my own Kalanazoo raised \$350 to purchase a radio-ear, thus bringing music and the sound of their own voices to the totally deaf. I am not forgetting the smaller groups that surprised me with the high type of selection for study.

These reports were most inspiring and interesting to note the wide variety of needs which arise in different localities.

Wisconsin made a real name for herself, first, gaining the greatest number of *Hygeia* subscribers, raising most of the money by rummage sales, and, second, made a great step forward when they won their fight against radio advertising of patent medicine and quackery.

12:30 p. m., reception and luncheon, speaker, Leonard George Rowntree, M.D., Director of Philadelphia Institute of Medical Research. Greetings, Walter J. Bierring, M.D., President A. M. A.; James S. McLester, M.D., president-elect of A. M. A.; Austin A. Hayden, M.D., Member of Advisory Council.

7:00 p. m., entertainment, evening at the Steel Pier, and various amusements.

Thursday, June 13, 1935, 9:00 a. m., group discussions.

10:00 a. m., Post-Convention Board Meeting, Mrs. Rogers M. Herbert, presiding.

12:00 p. m., luncheon at the Ritz-Carlton, followed by style show and bridge party.

7:00 p. m., "Bring-your-husband" dinner. Entertainment by Felix Restivo, accordionist.

9:00 p. m., presidents reception and ball, the Renaissance Room, Ambassador Hotel.

Friday, June 14, 1935, the day was given over to golf, luncheon and a de luxe tour, most enjoyable for those who were there to take it.

Much credit must be given to Mrs. Robert W. Tomlinson, President; Mrs. Samuel S. Salasin, General Chairman of Arrangements; Mrs. Carl Surran, Chairman of Entertainment; Mrs. James H. Mason III, Treasurer, and Mrs. David B. Allman, Printing and Program.

Respectfully submitted,  
Mrs. F. T. Andrews, *President*.

## MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner  
LANSING, MICHIGAN

### A Communicable Disease Summary

The outstanding development in communicable disease incidence for the first six months of 1935 has been the increase in cases of pneumonia. There has recently been a very definite rise in this disease. In 1934, cases reported were 20 per cent higher than in 1933. For the first six months of 1935 there was a gain of approximately 30 per cent over the same period in 1934. This is sufficient to be highly significant. There has been no apparent epidemic of upper respiratory diseases to account for it, and while pneumonia is never fully reported, there is no reason to think that reporting is either better or worse than usual.

Typhoid fever cases for the first six months of 1935 decreased 20 per cent compared to those reported for the same period in 1934. Diphtheria dropped about 22 per cent. Whooping cough decreased 8 per cent. An even more unusual decline was that in scarlet fever. Cases of this disease were 45 per cent below those of 1934. Measles continues its downward trend after reaching the highest peak in the history of the state.

### Antimeningococcic Serum

The Michigan Department of Health announces that therapeutic doses of antimeningococcic serum are available to any physician on request. The new product will be handled by the regular distributors of biologics manufactured by the Department. The antimeningococcic serum is put up in vials of 20 c.c. each. The usual case requires several vials.

### State Board of Embalmers

The members of the State Board of Embalmers and Funeral Directors which was created by act of the last legislature have been appointed by Dr. C. C. Slemons, State Health Commissioner. The chairman is Raymond A. Brown of Greenville. The other members are: Edgar C. Marshall, Detroit; Charles E. Marsh, Albion; Benjamin G. Bennett, Benzonia; Anthony Wujek, Detroit.

Frank J. Pienta, Director of the Bureau of Embalming of the Michigan Department of Health, is secretary of the new Board. The Board will have general supervision of all emblaming practice in the State, conducting examinations, issuing and revoking licenses, and inspecting funeral directing establishments. It will work in conjunction with the Michigan Department of Health.

### Calhoun County Health Department

Announcement has been made of the establishment on September 1 of the Calhoun County Health Department. The W. K. Kellogg Foundation is one of the sponsoring agencies. M. R. Kinde, M.D., is director. Organization of the new department brings the total of counties maintaining full-time public health service up to thirty-nine.

Dr. R. B. Harkness, who has been Acting Director of the Eaton County Health Department during the leave of absence of Dr. Davis, assumed direction of the Barry County Health Department on September 1.

Dr. T. E. Gibson became director of the Genesee County Department on July 15, taking the position



left vacant when Dr. L. A. Lambert resigned to accept the position of health officer of Flint.

Dr. F. R. Towne, health officer of Jackson, was appointed director of the Isabella County Health Department to fill the vacancy left by Dr. Gibson. He took up his new duties on July 15.

### Child Hygiene Notes

Women's classes are being held in Isabella county by Dr. Ida N. Alexander and in Houghton and Baraga counties by Dr. Ruth Stocking.

Infant welfare programs are being carried on in Ingham county by Bertha Cooper, R.N., in Gratiot county by Julia Clock, R.N., and in Ontonagon county by Annette Fox, R.N.

Martha Giltner, R.N., completed a six months' prenatal nursing service in Shiawassee county July 15, and began a similar service in Cheboygan county July 17.

Bertha Groth, R.N., is carrying on a combined prenatal and infant welfare program in Wayne village and Nankin township.

## OBITUARY

### David Trumbull Smith

1881-1935

Doctor D. T. Smith, of Omer, died of a heart attack September 8, 1935. He was born in Ontario, Canada, in 1881, and graduated from the Detroit College of Medicine in 1903, and began practice in Omer in the same year. He served his community and surrounding counties continuously until the time of his death. He founded the Smith Hospital at Omer in 1924.

In 1911 he was married to Winifred Hayes of Omer. Dr. Smith was elected Mayor of Omer in 1907 and again in 1925. He was always interested in his community and was proud to be associated with its people. He was respected for his long and faithful service. At one time he was the president of the Bay County Medical Society.

Dr. Smith is survived by his widow, three sisters and four brothers.

### Dr. Charles V. High

Charles V. High, Sr., was born at Tilsonburg, Simco County, Ontario, May 29, 1866, and died at his home in Midland, on June 15, 1935, aged sixty-nine years. He was the son of Mr. and Mrs. John Henry High. He came to the United States from Canada when he was four years of age and spent his early years in Ohio.

Dr. High, Sr., graduated from the Starling Medical College, Columbus, Ohio, which later became the Ohio State University, in 1888. He began his practice at Morley, Michigan, and on July 6, 1889, he was married to Miss Florence E. Sams of that place. In the following year he moved to St. Joseph, Missouri, where he practiced four years. He then attended Yale University for one year following which he returned to Michigan and located at Coleman in 1895, where he continued to practice until 1930, when he moved to Midland and joined his son, Dr. C. V. High, Jr. in the practice of his profession. He was one of the best known physicians in the county, having practiced here for forty years.

During his professional career, he took post graduate courses at the University of Michigan,

the University of Chicago and at the Mayo Clinic at Rochester, Minnesota.

During the World War Dr. High entered the Medical corps of the U. S. Army. He was commissioned a captain and after preliminary training at Fort Riley, Kansas, he left for overseas on May 1, 1918. He served at Camp Hospital 14 and later was transferred to Company 11 of the 4th Regiment. He was mustered out of service August 11, 1919, after serving 18 months, 13 months of which was overseas.

Dr. High, Sr. was a member of the Midland County Medical Society and on several occasions he served as president of the society. He was also a member of the Michigan State Medical Society and always actively interested in the welfare of the profession. He was an active member of the American Legion and was at one time medical examiner for Midland County for the Veterans Bureau.

Besides his wife, Mrs. Florence High, one son, Dr. C. V. High, Jr., of Midland; his mother, Mrs. J. S. Duffie, and a sister, Mrs. James O'Rourke, of Richmond, Michigan; and a brother, Dr. Floyd High, veterinary surgeon, of Coleman, Michigan, survive.

Dr. High was buried in Coleman, Michigan, where he had practiced for thirty-five years. As a tribute to his long and valuable services rendered in that community, the citizens of Coleman are having a memorial tablet placed on his grave.

## CORRESPONDENCE

### AFFAIRS IN CALIFORNIA

*Editor Journal of  
Michigan State Medical Society:*

You have requested me to send to you some observations regarding medico-economic conditions on the Pacific Coast. That is a wholesale request; however, I am jotting down, this evening, in paragraph form, impressions gained in a recent trip from San Diego to Seattle, Washington, a mere journey covering some 1,100 miles of coast line.

Unless one has been more than a tourist, hurriedly journeying along, a true insight of the vastness of this coast, its people, their background, natural resources, industry, social and political life, will be wanting. There are many who fail to understand that which transpires or has transpired because of a very palpable lack of first hand knowledge of facts and conditions—and still they have apparently no hesitancy in forming and expressing opinions as well as criticisms that are valueless.

A residency of some eleven months during which I have concentrated my activities in order to become better oriented and with many journeys covering over 7,500 miles, as well as through visits of several days each in different localities, I find that I am beginning to gain an insight into a few of the existing conditions. I shall endeavor to impart some of these observations.

California has a population of some six and a quarter million people and the state embraces 158,297 square miles. It has two ranges of mountains—the Coast Range borders the coast and is from 20 to 40 miles wide with elevations varying from 2,000 to 8,000 feet. To the east are the higher and grander Sierras. To the north, between these two mountain ranges, is the Sacramento River and Valley and to the south extends the San Joaquin Valley. One must see and take time to see in order to appreciate the vastness and the topography of California. A smaller range of mountains divides the state into northern and southern portions. There

are some 11,500 licensed physicians in the state. In addition, in 1934 there were about 1,500 osteopaths, and 3,500 chiropractors, as well as a miscellaneous horde of naturopaths, herbalists and mongrel types. Some 40 per cent of all practitioners are doctors of medicine in Los Angeles. There is a state average of one doctor of medicine to 652 persons. In metropolitan areas it runs as low as one to 551. In 1933 and 1934 seventy-five per cent of the practicing physicians earned less than \$5,000, fifty per cent less than \$3,000. A state-wide survey made in 1934-35, and for which the California Medical Association spent \$36,000 of its own funds in addition to some \$55,000 expended by the SERA, has compiled an interesting series of data. The printed report will be available in the near future.

Almost 6,000 of the 11,500 licensed physicians are members of the California Medical Association. Of the remainder, some have retired, others are associated with the teaching staffs of the four medical colleges or state institutions and there is the common per cent of ineligible and disinterested.

The following state laws govern the practice of medicine: (1) Doctors of Medicine, (2) Licensed Osteopathic Physicians and Surgeons, (3) Osteopaths, (4) Chiropractors, (5) Naturopaths. It is said that there are a million or more Christian Scientists.

Since 1917 the question of some form of health insurance has been the subject of lay and legislative discussion and has been agitated to the present day. It has received legislative consideration and the 1935 legislature created two committees that are to report upon health insurance legislation in the 1937 session. The Chairman of our Council made a very lucid explanation of our Association's attitude to the House of Delegates of the American Medical Association at its 1935 session. This statement has been printed in our official publication and a reprint sent to every State Secretary and Editor for their information and comment. The Association is seeking to lead in place of being led. It believes it can accomplish more by guidance than through edicts of "Thou Shalt Not's" and obstinate opposition to powerful forces that exist in California.

In the 1935 Session of the Legislature over 3,500 bills were introduced. Over 500 of them were concerned with medical care and public health and related to medical practice. On September 15, 1935, a bill becomes a law authorizing hospitals to issue hospital insurance policies under the supervision of the State Department of Health.

California has a system of county hospitals; some of them are most elaborate and splendidly equipped. Supervisors have found that free hospitalization of their constituents in county hospitals is an excellent way of strengthening their political power and continuing in office. This spring in some eight counties a referendum was had to open up the county hospital to all residents. This was not accomplished; still, in one county 90 per cent of the residents who required hospitalization were admitted to the county hospital and in another the percentage was 82. There is a sustained movement that is demanding opening up these county hospitals.

Another great problem in this state is that of hospital associations that are being operated against the law and without any attempt to enforce the law. As the Chairman of our Council has said, "Some of them good, some of them bad and some of them plainly crooked."

The Council, officers and members of the California Medical Association will measure up to and in many instances will excel those who constitute other state organizations. Through personal contact and observation, it is my opinion that in professional skill, professional ideals, judgment, vision, knowledge of applied social economics and in functions of government, they are the peers if not the superiors of those who have sought to discredit the profession in California. It ill becomes these uninformed, and the Editors of Journals to condemn when it is very apparent from their expressions that they knew not what they are speaking of or are willingly voicing misrepresentations, and are unable to recognize social trends and changes.

The foregoing transmits a very general picture of actualities. One must be on "location" in order to appreciate existing potentialities. There is much talk and comment but *very little thinking*. Sound thinking will eventuate in sound principles. It is fatuous not to recognize that social changes are in the making and are at hand. Failure to recognize them will result in a failure to meet them adequately and adapt ourselves to them in order to conserve our professional interests. Medicine has ever followed social trends and has been slow to adjust itself to changing conditions. Rarely has medicine reflected leadership. It has resisted, often to its own detriment. An opposition attitude must now be abandoned and in its stead the policy of guidance and supervision should characterize activities. If we fail in this it will only mean that society will gain control and initiate changes that for us eventually will mean *political* legislation and *political* domination of medical practice.

We can prevent political control through leadership that will cause us to retain the right to govern and direct medical practice without legislative enactments. In order to do so we must institute a plan or system that will provide for the medical needs of all classes of society.

Resent this as you may; reflect obstinate resistance; refuse to recognize changing social conditions, and, influential and independent as the profession may feel it to be, nevertheless in a few years political legislation will most surely control and direct the practice of medicine. Such a condition and subjection can be circumvented. We can continue to dwell in the proud temple of medicine, with heads uplifted and as arbiters of our own ways of rendering medical care—but only by a universal recognition of a changing social life and by meeting the demands of changing conditions through comprehensive leadership. Some of the traditions of the past need to be laid aside, however regretfully and reluctantly, and in their stead there must be instituted new principles that will safeguard the autonomy of medical practice.

Many will condemn, bitterly criticize and refuse to acknowledge the need for these readjustments. They are *not thinking*—they are just talking. I do earnestly urge dispassionate thinking.

Criticize California's profession if you wish but in the end I predict that eventually the thinking men will conclude as did the delegate from North Dakota who reported to his State Society: "In fact, some delegates seemingly were of the opinion that the Californians actually had acted for the best, considering conditions and outside pressure brought upon the medical fraternity in that State."

F. C. WARNSHUIS, M.D.,

Secretary, California Medical Association.

450 Sutter Street,  
San Francisco.



*Editor, Journal Michigan  
State Medical Society:*

Enclosed please find a copy of the "Bulletin" of the North Side Branch of the Cook County (Illinois) Medical Society, containing the final report\* of the Committee on Medical Economics, covering the results of a Survey among our members conducted by that Committee.

As Chairman, I am directed to forward this copy of the report to the Editors of all State Medical Journals, requesting consideration for its publication in full or in part, believing that publication in State Journals reaches further and receives more attention than in the American Medical Association Journal.

With that in mind, I comply with the wishes of our Committee, and I hope you will be able to give us space in your Journal.

We will appreciate, also, receiving from you what may have appeared in your columns connected with the subject of our report, with the idea of its incorporation in the application of our recommendations.

CHARLES H. PARKES.

July 27, 1935

\*Abstract of this report will appear later in this Journal.—Ed.

## GENERAL NEWS AND ANNOUNCEMENTS

The seventieth annual meeting of the Michigan State Medical Society is in progress as this JOURNAL goes to press. The October number contains the president's address. The publishing of the other addresses presented at the Sault will begin in the November number, which will contain, also, a verbatim account of the deliberations of the House of Delegates.

A news item under the date of September 6 announced a project for a new 350 bed veteran's hospital to be built in or near Detroit at the cost of two million dollars. This hospital will be distinct from the present United States Marine hospital at Windmill Point, which is equipped for handling 150 veteran cases. Evidently the combined capacity of the marine hospital and the new veteran's hospital will be 500.

In 1905 there were 160 medical schools in the United States with an enrollment of 26,147; 1915 and the number of medical schools had been reduced to ninety-six and the enrollment to 14,891. Following the war in 1918, there was manifest a tendency towards an increase in the number of medical students so that by 1925 the number was 18,200. The last academic year witnessed in 2,288. The number of medical schools, however, has not increased with the augmented enrollment. Medicine appears to be an attractive calling for young men of the present day.

At the regular meeting of the Detroit Board of Education held August 27, it was decided not to appoint a dean to the medical department of Wayne University for the time being. Dr. W. J. Stapleton of Detroit, secretary of the Executive Board of Medical Defense of the Michigan State Medical Society, was appointed assistant dean at the June

meeting of the board. The Board of Education, on recommendation of superintendent Cody, appointed assistant dean Stapleton as "acting" dean until the end of the year.

Beginning October 1, the American Medical Association introduces a new radio program to be given each Tuesday at 5:00 P. M., Eastern Standard Time. The general topic is in the form of a toast, "Your health, Ladies and Gentlemen . . ." It will be offered over the blue network of the national broadcasting company. It will be presented in a vivid dramatic form, with musical accompaniment. Among other things, medical emergencies and how they are met will be dealt with. The hero of the medical emergency, the doctor who is available day and night, is the real sponsor of this series of practical and entertaining health broadcasts.

## RELIABLE APPARATUS

The JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY has received from the American Medical Association a small pamphlet containing a list of the apparatus accepted by the Council on Physical Therapy, the first one published under the direction and supervision of the Council. In addition to the list and description of accepted apparatus, the pamphlet contains indications for the use of each type and a statement relative to efficacies and dangers.

This pamphlet is a real contribution on the part of the American Medical Association in behalf of rational therapeutics—an effort to help place physical therapy on a sound, scientific basis for the benefit of the medical profession.

One of the purposes of the Council on Physical Therapy is to protect the medical profession, and thereby the public, against inefficient and possibly dangerous apparatus and against misleading and deceptive advertising in connection with the manufacture and sale of devices for physical therapy.

*Apparatus accepted* includes all the devices accepted by the Council prior to May, 1935. Any physician can obtain this pamphlet free by writing to the Secretary, Council on Physical Therapy, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

## AMERICAN MEDICAL DIRECTORY

The work of revising and compiling the new Fourteenth Edition of the AMERICAN MEDICAL DIRECTORY has been started.

After each Directory is published we receive a number of complaints from physicians who have not been listed as Members or Fellows of the American Medical Association. Some of these men have possibly lost appointments with industrial firms, insurance companies, railroads, et cetera, because they were not indicated as members. They may have been members and let their membership lapse or new men in the community who failed to join their local society in time to indicate this information in the Directory.

To eliminate such criticism, we are asking Secretaries of State Medical Societies and Editors of State Medical Journals to coöperate in notifying all delinquents and eligible applicants that a new Directory is going to be published. It would aid greatly if a notice were placed in your publication calling to the attention of your readers the importance of the keeping up of their membership in your Society.

It will probably be two years, or 1938, before sending in their data promptly when requested and another Directory will be issued.

## THE DOCTOR'S LIBRARY

*Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.*

**THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY.** A complete Dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc. By W. A. Newman Dorland, A.M., M.D., F.A.C.S., Lieut-Colonel, M.R.C., U. S. Army; Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association. With the Collaboration of E. C. L. Miller, M.D., Medical College of Virginia. Seventeenth Edition, Revised and Enlarged. Octavo of 1,573 pages with 945 illustrations, including 283 portraits. Philadelphia and London: W. B. Saunders Company, 1935. Flexible and Stiff Binding. Plain \$7.00 net; Thumb Index \$7.50 net.

The growth of a dictionary is a matter of interest and this is particularly true of a medical dictionary, perhaps more than any other. The first edition of Dorland appeared in 1900 with 770 pages. The number of pages has more than doubled in the thirty-five years of its existence, an index of the advancement of medical science. The present as well as preceding editions have been thoroughly edited by the staff of the American Medical Association under the direction of Dr. Fishbein, Editor of the *Journal of the American Medical Association*. The thin opaque paper (not India paper) has enabled the revisers to keep down the size and weight to a convenient size, a very important matter in a dictionary. The flexible fabricoid cover, thumb index and the bold-face type render it all that can be desired. A commendable feature is the etymologies. The writer feels that the history of words through their derivatives is an important matter in effecting an intelligent comprehension of the word. The illustrations, including portraits, have not been spared, so that in the truest sense the seventeenth edition is an Illustrated Medical Dictionary.

**A TEXTBOOK OF LABORATORY DIAGNOSIS WITH CLINICAL APPLICATIONS FOR PRACTITIONER AND STUDENT.** By Edwin E. Osgood, M.A., M.D., Assistant Professor of Medicine and Biochemistry, Director of Laboratories, University of Oregon, School of Medicine, Portland, Oregon. Second edition with twenty-seven figures in the text and ten colored plates. Philadelphia: P. Blakison's Son and Co.; Inc., 1935.

We have here a clear and detailed presentation of laboratory methods which include the technic of methods in blood chemistry, urinalysis, analysis of feces, gastric contents, duodenal contents and bile, sputum, basal metabolism determination. This part is preceded by chapters on clinical pathology. The work, valuable for student instruction, will be found of even greater service for those general practitioners who endeavor to keep themselves informed on the latest developments in clinical laboratory diagnosis.

**LIVING ALONG WITH HEART DISEASE.** By Louis Levin, M.D., Cardiologist to the St. Francis Hospital, Trenton, New Jersey, with a foreword by Thomas M. McMillan, M.D., Associate Professor of Cardiology, Graduate School of Medicine, University of Pennsylvania, New York. The Macmillan Company, 1935.

A very interesting little book of 126 pages written in non-technical language for the layman cardiac patient, it explains in simple language his physical condition. There is a note of optimism running through the various chapters. The author seeks to minimize or dispel the element of fear that so often affects the patient who is told he has some form of cardiac disease.

**DISEASES OF THE CHEST.** By J. Arthur Myers, M.D., Professor of Medicine, Preventive Medicine and Public Health, University of Minnesota Medical School. National Medical Book Company, Inc., New York. Price, \$3.00.

This is a number of series of national medical monographs edited by Dr. Fishbein, editor of the *Journal of the American Medical Association*. Great progress has been made during the last ten years in the matter of knowledge of diseases of the chest. During this time, methods of diagnosis, treatment, and prevention have been completely revolutionized. The work is satisfactorily illustrated by radiographs. Yet the author draws attention to the fact that the x-ray film very rarely produces sufficient evidence to justify a final diagnosis, due to the fact that there are a number of conditions which closely resemble tuberculosis in the shadows they cast. The x-ray examination of the chest, however, is very essential and the author would extend its use. He also advocates more extensive employment of the bronchoscope, preliminary to resort to the "court of last appeals," namely, the microscope, for the examination of sputum and pleural fluids. This work embodies the latest knowledge in the matter of both diagnosis and treatment.

**INDUSTRIAL MEDICINE.** By W. Irving Clark, A.B., M.D., Assistant Professor of the Practice of Industrial Medicine, Harvard School of Public Health, Boston, and Medical Director of The Norton Company, Worcester, Massachusetts, and by Philip Drinker, S.B., Ch.E., Associate Professor of Industrial Hygiene, Harvard School of Public Health, Boston, Massachusetts. National Medical Book Company, Inc., New York. Price, \$3.00.

*Industrial Medicine* is an adaptation of the mental equipment of the general practitioner. Given this training, the physician in the vicinity of the factory or mine has found that the environment of the worker must be taken into consideration in the treatment of accidents and other conditions due to environment, such as dust, heat or chemical irritant. Among the chapters are The Industrial Medicine Department; Industrial Surgery; Industrial Medical Service; Industrial Diseases; Dusts; Pneumoconiosis; Lead and Metal Fume Fever, Dermatoses; Gases, Benzol, Asphyxia and Artificial Respiration; and Prevention. There is a bibliography of over 170 titles for those who would carry the study of the subject further.

**CLINICAL DIAGNOSIS BY LABORATORY METHODS:** By James Campbell Todd, Ph.B., M.D., Late Professor of Clinical Pathology, University of Colorado, School of Medicine; and Arthur Hawley Sanford, A.M., M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Section on Clinical Laboratories, Mayo Clinic. Eighth Edition, Thoroughly Revised. 792 pages with 370 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1935. Cloth, \$6.00 net.

The fact that this book now appears in its eighth edition since it first appeared a quarter of a century ago is sufficient evidence of its acceptance by teachers of laboratory methods in medical colleges. This work is so widely and favorably known to members of the profession that scarcely anything is necessary by way of review than the mere announcement of the appearance of the new edition. Occasion has been taken to revise the work completely as well as to add new material that has been found of value since the appearance of the last revision. New material has been added to the chapter on blood to include Isaac's refractile granule, monocytes, filament-nonfilament counts and Sabin's vital staining technic. The appendix will be found valuable, presenting as it does in convenient form useful data and references in regard to office laboratory methods.



# THE JOURNAL

OF THE

## *Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. 34

NOVEMBER, 1935

No. 11

### MEDICINE: THE INFLUENCE OF THE SOCIAL FORCES\*

ANDREW P. BIDDLE, M.D., D.Sc. (Hon.)  
DETROIT, MICHIGAN

Many years ago John Abernethy (1764-1831), a celebrated physician of the 18th and early part of the 19th Centuries, as he walked into the lecture room of St. Bartholomew's Hospital, looked upon a crowd of medical students and exclaimed half in curiosity and half in sorrow: Good God! what is to become of you all. The same thought must often arise in the mind of every teacher.

In the selection of a subject for an address to medical students, who within a few months to a few years will be entering into active practice and must then share its responsibilities and burdens, though they may never receive the rewards, one is confronted with some difficulty as to the subject matter. The choice might be along the lines usually followed, namely, the history of Medicine with a recital of her prodigious advances throughout the years in the cure and prevention of disease. On the other hand one might divert from the stereotype and consider the forces which, whether social, anti-social, political, religious or economic, have in other civilized countries changed and today are changing in our own, swiftly and surely, the course of medical practice and affecting the relationship of patient and physician, physician and the public; yea even undermining the responsibilities of the physician to his profession; steps which can never be fully retraced. I have chosen the latter course because, though throughout your undergraduate years you will be well instructed in the science and art of medicine, the full meaning of a life devoted to the conservation of public and private health and the alleviation of mental and physical suffering cannot be

fully realized until after years of service in actual practice. Though we are but a very small part of the total population of our Country, we *are* the architects of the medical profession and must see that the foundations of practice are sound and the superstructure safe. It will require all our strength, courage and unity of action to combat the influences which, though offered in all sincerity and good faith, cannot but fail to impair intelligent medical service.

In order to give you an insight into the field into which your future may be projected, it is necessary for its full understanding to realize that medical care is but a small, though a very vital, part of the social drama which is unfolding itself. Unemployment, old age pension, social and economic security and political policies are so interwoven with the problems for the care of the indigent, the low income class, our war veterans, the mentally sick, the handicapped, the employed, the employables and the general public health that none can be considered separate from the religious, political, economic and other social problems of the day. Each and every one affects the char-

\*Address delivered at the special convocation of the University of Michigan Eighty-sixth annual opening exercises of the Medical School, September 30, 1935 (see editorial page 673).

acter and the manner of the medical service rendered.

It might be well for you first to picture to yourselves the physician even as late as the 1870's and 80's, so wonderfully portrayed by Dr. Wm. A. Pusey in the description of the life of his father as a country doctor in an average rural county of Kentucky, not a particularly prosperous county, nor yet a very poor one, before the days of bacteriology, the telephone and the automobile and without the workshop of the hospital. Vision him as of today and, if possible, as of tomorrow. Picture him in his long country drives with horse and buggy or the sleigh, or the horse and saddle bag, driving over unpaved roads or through drifts of snow; the long hours of travel in all kinds of weather in the varying seasons of the year; called at all hours of the day or night with the consequent interruption of sleep; with no aid other than that offered by other members of the family or willing neighbors; ready for all emergencies. Think what character—self reliance, independence, individualism—such a life must have developed. With the knowledge of the strength and weaknesses of the physical and mental qualities of every member of the family he attended; beloved and trusted; physician, nurse, confidential adviser in all things affecting the welfare and happiness of his patients, he had that close relationship of physician to patient which today passeth understanding and which the proposed manner of practice of tomorrow would, willingly or unwillingly, destroy. Picture him as of today with the telephone, the automobile, the trained nurse, the hospital, the laboratory, the x-ray and all the advances in medicine and surgery at his command but with the loss of that prestige and that affection which the family physician enjoyed. Think of the close relationship which expressed the confidence of the patient and the responsibility of the physician, today almost destroyed by the extraneous forces which discourage, if they do not forbid, that relationship. Life was simpler then. It is now infinitely complex because of a legion of separate and often conflicting interests.

What have caused within the few years such changes? Forces, local, national and international; often insidious, though at times precipitate. Some bring changes which are beneficial, but many are inimical not only to professional service and progress but to the best interest of the public which

we serve. Changes must always come about, but never, as today, have they been so interwoven with the whole social fabric. It is a long way, though but a generation, between the manner of practice as I learned it and as it will be given you to follow.

Religion, the oldest of the professions, was probably the first to exert its influence. From time immemorial it has been closely allied with medicine, as is evidenced by the rites of the medicine man and the rôle of the priest down through the ages in the care of the sick with his imperfect knowledge of empirical therapeutics. Even today, though less sought, a religious faith often strengthens the patient's attitude towards disease, especially in the neuroses.

In ancient Greece the higher reasons of philosophy prevailed, the idealism of Plato, the materialism of Aristotle, and the postulations of Socrates. During the Roman Empire, the Napoleonic Wars, our own Revolutionary War, the War of the Rebellion, the Spanish-American and the World Wars the military forces exerted a strong influence on medicine because of the necessity of keeping the soldier fit for service. The incidence of typhoid fever in the war with Spain was the cause of death to thousands of soldiers; but the lessons learned therefrom probably saved the lives of hundred of thousands in the World War by the almost complete elimination of the disease through use of typhoid vaccine and the more thorough policing of the camps. Much of this result is due to the historic work of the typhoid commission, created in August, 1898, consisting of Major Walter Reed, Medical Corps, U. S. Army, chairman, Major V. C. Vaughan, late dean of your school, Division Surgeon, and Major Edward O. Shakespeare, Brigade Surgeon, throughout the various camps but more especially on the infested fields of Chickamauga Park, Ga., where the 31st Michigan Volunteer Infantry and 60,000 other regular and volunteer troops were encamped.

Beginning with the intellectual unrest of the 16th century and "with the coming of the 18th we can see a new influence under the reaction of which Medicine moved along new paths to greater service and efficiency. It was the gospel of social justice, the publicizing of human rights, the realization of Society's obligations to the individual—it was this new concept of government that had its great reflection in public health." A new era, an era burdened with greater so-



cial and political changes, newer concepts in human relationship, is upon us.

Speed, mass production, mechanical inventions, that have had so profound an influence upon all human endeavor, have not failed to affect Medicine and medical practice. With the changes which are registered through the coming of the automobile, the radio and other methods of transportation and transmission of sound, are constant improvements in medical and surgical mechanism and technic, as instanced in the application of the roentgen rays and radium.

Social forces are cognizant of these advances made in Medicine; for in no field, as in the prevention and cure of disease, have greater strides been made for the happiness of mankind, have greater results been achieved than through Medicine. With the belief that medical care of the masses is mostly a sociological problem they, the social forces, are directed to the end that these benefits shall reach the lower income class as well as the higher.

Political philosophy also early recognized these forces in the conduct of human affairs. European countries have had for many years health insurance plans, varying as best fitted the temperament of the government and its people. Time does not permit consideration of the benefits and abuses of the various schemes as they affect Britain, Germany, France, Austria, Soviet Russia and other European countries except as they feature in the future of American character and American Medicine.

Bismarck as early as 1883, probably in the belief that the act would crystallize the attachment of the people to the Hohenzollern crown, forced through the first most comprehensive scheme of sickness insurance, which with few modifications is in existence today and covers the greatest number of insured in any one country. In 1911 the British National Health Insurance Bill was engineered through Parliament on the insistence of David Lloyd George, probably as much for its political potentialities as for its humanitarian aspects. What influence this has had upon medical practice in Britain is too well known to need further comment other than to say that the panel system as practiced there would be admittedly demoralizing here. Soviet Medicine, which has followed the trend of the political philosophy of the Russias, is entirely under government control.

Are these changes acceptable to Ameri-

can Medicine? I say *No*, because the manner of their execution is not presented in the form best to conserve the prestige of Medicine and the traditions of practice. The physician is essentially individualistic and rightly so. Every patient should and usually does receive sympathetic, intelligent care; possible under present day American practice but not to be realized under mass or socialized practice as attempted abroad. The social structure of the United States is essentially different from that of Europe.

Socialized Medicine must eventually include State Medicine, which has been defined by the American Medical Association "to be any form of medical treatment, provided, conducted, controlled or subsidized by the federal or any state government, or municipality, excepting such service as is provided by the Army, Navy or Public Health Service, and that which is necessary for the control of communicable diseases, the treatment of mental diseases, the treatment of the indigent sick and such other services as may be approved by and administered under the direction of or by a local county medical society, and are not disapproved by the State Medical Society of which it is a component part."

In socialized Medicine that intimate, sacred relationship between patient and physician, which is one of the strongest of human ties, would be jeopardized, and to a great extent terminated. The experience of European countries shows that the cost of medical care would increase, convalescence often prolonged, the quality of service deteriorated by the inevitable intrusion of the expediences of politics; and the pursuit of scientific medicine discouraged for lack of personal ardor for research.

Other forces are gradually encroaching upon the field of the general practitioner, which is becoming narrower and narrower. Public Health Service, federal, state and municipal activities are with strong public approval assuming control of all communicable diseases in greater and greater number in the name of preventive medicine and under the guise of public safety. Industry, employing thousands of men and women, finds it more economic to have its own staff of physicians to diminish its liability to accident and disease under the Workmen's Compensation Acts, and actually engages, indirectly, in the practice of medicine, which is unlawful. Large health insurance and casualty companies minimize their risks

under group insurance by forcing out of employment men over a certain age. This is necessary to meet the actuarial statistics.

The Army, the Navy and their air forces, the U. S. Public Health Service, all absorb thousands of young physicians and surgeons, held to effectiveness by promotion, economic security, adventure and love of service. And to these now are added thousands more for the care, hospitalization and rehabilitation of our disabled veterans.

Thus the fields for civil practice are gradually being ploughed under, and their scope diminished. Where government does not encroach, other forces, closely related in their activities, would dictate to the physician the manner of his life in the care of his patients.

How are these challenges to be met? Some of you will enter the public service through the Army, the Navy, or their air forces, the U. S. Public Health Service, the Veterans' Administration; some through Boards of Health, municipal, district and state; some will devote yourselves to research through endowed laboratories; others will be attached to the universities; but the majority of you must enter into private practice. None will, nor should he, escape the burden of safeguarding his profession. A profession is not a business, it is a career. Responsibility to it, as in medicine, is as sacred a duty as can be assumed, individually and collectively. It is true that business, industry and labor have accepted codes of behavior, but Medicine has, throughout the centuries, recognized her intimate public relationship through service. The social forces by their very weight will insist upon the acceptance of their tenets. There are, however, creeds that are *unchangeable and unchallenged* and among these is our firm belief that the care of the sick and afflicted is best left in the hands of the educated, intelligent, cultured physician.

A constantly increasing number of veterans of the Spanish-American and the World Wars are by the thousands filling the hospitals under governmental administration. Hospitals for the tubercular, the mentally sick, the physically unfit and the handicapped are supported by states, counties and cities. Public health service has long since left its narrow confines and, slowly but surely, the government is assuming more and more the work of the private physician. Boards of health, state, county and municipal, beneficent as they are, under the neces-

sity of protecting the public health, encroach upon many diseases, the care of which formerly fell to the general practitioner, notably the contagious and venereal diseases, especially in the larger cities. Under the Social Security Act, now a law, though no specific reference to it is made, the act includes, under its broad terms, investigation of health insurance and recommendations to the Congress by the Social Security Board. More and more health centers under governmental control will be established within the states; more and more will the patient be drawn away from the practitioner and more and more will he, the patient, expect and demand federal aid, though in the long run so detrimental to himself.

Thus the sources of income for the young physician of the future are becoming more and more limited, derived as they are from not more than from 17 to 20 per cent of the population.

What has caused this upheaval of thought and social philosophy which would change the individualism of yesterday and in a lesser degree of today as to the *regimented* physician of tomorrow? It has not been sudden but gradual and, as far as Medicine is concerned, has centered around the cost of medical care to the indigent, the low income class and even among the higher income wage earners; and the fact that medical facilities are not fairly distributed. Inevitably, because of the higher cost of hospital administration and the service of specialists, modern Medicine is more costly. Steps to organize a more equitable distribution of medical service are still too vague to warrant a definition of place.

How can Medicine, truly democratic in her endeavor to give relief,—which has the altruistic touch in a degree greater than any other profession; which has always had the inspiration of communal service,—be kept unshackled from these influences? Shall Medicine become simply an agency of government, to receive dictation from a bureaucracy; Medicine, which throughout the centuries has maintained its ideals of service? Shall inspiration, incentiveness, the power to think and to decide, and opportunities be limited or destroyed by Government? Shall regimentation displace the essence of the American character—*independence, initiative, individualism*? What would Medicine have done without her Jenner, her Pasteur, her Gordon, her Gorgas, her Ephraim McDowell, her Osler, her Koch, her



Ehrlich and thousands of others who typify in the greatest degree these qualities and who, through research, resourcefulness, faith and courage have put their convictions into practice?

\*“The profession needs, and will always welcome, the coöperation and advice of all elements affected in health problems, but just as the individual physician must constantly assume the tremendous responsibility of decisions that involve life and death with individual patients, so the profession as a whole must assume the leadership and responsibility in the organization of medical service in the community.” And I might add that the profession through its basic unit, the County Medical Society, is assuming more effective and intelligent leadership over problems which are not merely medical but sociologic and economic. Through organization, *and through organization only*, can these problems, which are statewide, national and international, be solved. Bear this in mind from the hour of graduation.

Though it may seem paradoxical to you, on the one hand we stress the plea for individualism of the physician in relation to his patient, on the other we urge organization. But the truth is that often idealism can be effective only through materialistic efforts. We must act as a body to safeguard intelligent and effective medical service. Perhaps the way is through the creation of more opportunities to labor and the more equitable distribution of the wealth of the nation. Upon your generation will fall the burden of a solution, if a solution is ever to be found to these eternal social and economic problems.

It is society, not human nature, which is changing, and the physician must find his place therein, but in no subordinate position. In leadership, under her own inspiration, Medicine will find the greatest fulfillment of her work.

I am not one of those who believe that the physician should devote his time solely to the practice of his profession. It is not best for himself and certainly not for the profession. In the long run it is the public attitude towards him that often determines the public evaluation of his profession. Seek the culture of the law, of religion, of literature, of the arts, of the library, and of the educator and by these contacts your own

mind will be broadened. Medicine is still an art. The sick often care less for science than they crave sympathy and human understanding. Medicine, with religion, with which she has been allied down through the centuries, shall not perish and her humanitarianism must not be sacrificed upon the altar of socialism. Bring to her intelligence, culture, self sacrifice in service but always through leadership. Be not the “servant of those, who, leading in other sociological fields, would shape the destiny of medical practice.” Be the master but never the servant. You might, conceivably, be a servant to a science, to a philosophy; but to an art, like Medicine, be the master. If government is, inevitably, to prevail in all our affairs, enter into the administration of government; seek the legislative halls and help to shape the future of Medicine by your influence and will. You, to whom we look for future leadership, face a hardship unfathomed today but you face an opportunity unlimited in its contribution to scientific knowledge and the application of this knowledge to the public health. Above all believe in Medicine and her destiny. She, as a free institution, still exists in America and it is your duty to see that she remains free. Neither War, nor boom or depression years have weakened my faith in her ability to rise to the needs of a newer and better world, so urgently desired, if left to her own resourcefulness, unfettered by bureaucratic dictation.

Over the years that I have been interested in medical education I have watched with deep interest, though at times with concern, its progress through our State University. Great men have passed through its portals, men who have helped to shape the destiny of Medicine; and within its walls, men with deep understanding and clear vision have laid that foundation which has enabled its graduates to pursue a life enriched by its service to mankind.

With these few thoughts and best wishes for your happiness and success I turn you over to your teachers, adding only: “Medicine cannot be taught by the Faculty alone. It must be learned by the Student. It is an axiom,” as vital today as ever, “that true education is self education.”

And this anonymous tribute to the old family doctor:

“In love he practiced, and in patience taught,  
The sacred art that battles with disease;  
Nor stained by one disloyal act or thought,  
The holy symbol of Hippocrates.”

\*Conclusion of the Special Report of the Bureau of Economics of the American Medical Association to the House of Delegates at the Atlantic City meeting, June 10, 1935.

## MATERNAL MORTALITY AND THE PRACTICE OF OBSTETRICS IN MICHIGAN\*

JENNINGS C. LITZENBERG, M.D.†

MINNEAPOLIS, MINNESOTA

It behooves all of us as individuals, county societies, teaching institutions and state organizations to take stock, frequently, of our efforts to protect the health and preserve the lives of the people we serve. This was the purpose of the White House Conference on Child and Maternal Welfare, called by President Hoover in 1930 and 1931. This Conference consisted of all agencies which could in any way contribute to the investigation of child and maternal welfare, and it was laboriously and meticulously thorough and revealing. Some of the revelations in the report of the Conference were very disconcerting, for example:

1. "The United States lags behind the civilized world in the prevention of maternal deaths, three-fourths of which are due to controllable causes,—infection, toxemia and obstetric hemorrhages."

2. "The welfare of the mother and her offspring can only be secured by better obstetrics, and furthermore, to accomplish this, there must be better teaching of obstetrics."

3. "It is apparent that *most* undergraduates do not receive sufficient practical clinical training."

4. "In 1929 there were approximately 15,000 maternal deaths, 80,000 deaths of infants less than one month old, 85,000 stillbirths, 65,000 of which were due to injury at birth."

5. "There are unavoidable hazards to both mother and child, but these can be minimized by adequate teaching and practice of prenatal, natal and postnatal care, all consecutive and complete."

*But here is the staggering blow of the report:*

6. "If only our present knowledge were universally and skillfully applied, many thousands of lives could be saved annually and much suffering and injury avoided."

*Measured by this exacting yard-stick, where does Michigan stand?*

For this study, the reports of the United States Census Bureau alone have been used. The rapidly falling birth rate emphasizes, for economic, if for no other reason, the necessity of preserving every mother and baby, not only for the family, but also for the state.

### Birth Rates

Birth rates, the world over, have been slowly declining for many decades, falling rapidly since 1915, and tumbling apace since 1920.

\*Read before the 70th annual meeting of the Michigan State Medical Society, September 25, 1935, Sault Ste. Marie.

†Dr. Litzenberg is a graduate of the University of Minnesota Medical School, 1899. He is a member of the American Board of Obstetrics and Gynecology and is professor and head of the Department of Obstetrics and Gynecology at the medical school, University of Minnesota.

In the United States' registration area, the rate decreased from 25.1 births per 1,000 population in 1915, to 17.4 in 1932, when the last complete rates were published by the U. S. Census Bureau, a drop of 26.5 per cent (Table I).

In Michigan the rate fell from 24.9 in 1920, to 17.2 in 1932, per 1,000 population, or 30.9 per cent. Had the rate remained at its 1920 level, 24.9 per 1,000 population, the number of births in Michigan, in 1932, would have been 124,076, instead of 85,736, a difference of 38,340 babies, the cost to Michigan of the falling birth rate.

TABLE I. BIRTH RATES

*Birth rates, the world over, have been slowly declining for many decades, falling rapidly since 1915 and tumbling apace since 1920.*

U. S. rate 1915.....	25.1 per 1,000 population
U. S. rate 1932.....	17.4 per 1,000 population
U. S. rate decrease.....	26.5 per cent
Michigan rate, 1920.....	24.9 per 1,000 population
Michigan rate, 1932.....	17.2 per 1,000 population
Michigan decrease.....	30.9 per cent
Michigan births, 1931.....	85,736

*Michigan births, 1931, would have been 124,076, under the 1920 birth rate, a cost to Michigan of 38,340 babies, due to the falling birth rate.*

If the birth rate continues to decline, and the death rate remains as stable as it has for two decades, it will not be long until births equal deaths, a condition not to be contemplated with entire equanimity, for, inasmuch as there is now no immigration increase, we will have reached the status of a stable population, always the forerunner of a decreasing population—an economic misfortune and evidence of a decadent state.

It may be hoped that the birth rate will become stabilized before it reaches ten per 1,000 population, or one per cent, at which rate, births and deaths in Michigan will be



approximately equal, and a stable population will be reached. *When deaths exceed births, economic disaster impends.* Similar decreases are recorded in every state of the Union and also in Europe.

Only three factors control population growth: births, deaths and immigration. Inasmuch as immigration no longer exceeds emigration, and deaths are relatively constant, the decreased birth rate becomes the dominating factor, which, if it continues to fall, will be a distinct menace to population growth.

It has often been asserted that the reduction of births is due to the depression, which really is a small factor. The precipitous decrease began in 1921 and continued throughout the prosperous years.

The expert economists and statisticians, long since, became alarmed at the prospects of decreasing population. Now it should be apparent to all, for the effect is becoming evident by the decreased school population in the lower grades all over the country.

"The social life of tomorrow is already determined by the children now living, literally they are the future society." (Frank.) It is evident that any further fall in births will seriously endanger our national life.

### Maternal Mortality

It is often contended that because the classifications of deaths from puerperal causes differ greatly, a comparison of foreign statistics with those of the United States is impossible and unfair to this country. The writer, until recently, has shared this opinion. However, since the publication, by the Children's Bureau, of the investigation by Dr. Elizabeth C. Tandy on "The Comparability of Maternal Mortality Rates in the United States and Certain Foreign Countries," it appears justifiable to accept Dr. Tandy's conclusions:

"That differences in methods of assignment are insufficient to explain the high maternal mortality rate of the United States, as compared to foreign countries. The official figure of the United States, in the last few years, has exceeded that of every country, except Scotland."

"No matter what method of procedure is used, the United States retains an exceedingly high rate, as compared with other countries."

The maternal mortality rate for the United States registration area (all but one state—Texas) was 6.3, white 5.8, black 9.8, per 1,000 live births, according to the

United States Census Bureau reports for 1931 (the latest complete figures). The Michigan rate for the same year was 6.0, nine per cent below the national rate.

TABLE II. MATERNAL MORTALITY RATES PER 1,000 LIVE BIRTHS

	1920 (23)*	1932 (47)*	Improvement Rate %	
U. S. Registration Area...	8.0	6.3	1.7	21.2
White .....	7.6	5.8	1.8	23.7
Black .....	12.8	9.8	3.0	23.4
Highest State Rate.....	12.2	9.4	2.8	22.9
	(N. C.)	(S. C.)		
Lowest State Rate.....	6.4	4.3	2.1	32.1
	(Ky.)	(Utah)		
Michigan .....	9.3	6.0	3.3	35.4
Ohio .....	8.0	6.3	1.7	21.2
Indiana .....	8.7	5.4	3.3	39.0
Wisconsin .....	6.7	4.8	1.9	28.3
Minnesota .....	7.9	4.4	3.5	44.0
Foreign .....	5.4	5.4		
	(1928)	(1931)		

\*Figures in parentheses indicate number of states in the U. S. Registration Area.

The states in this table were selected because they constitute the mid-western states, comparable in type of population, living conditions and medical educational facilities.

It will be seen at once that there is an improvement in the national figures of more than twenty per cent. This might be partially accounted for by improved statistical methods and the increase in the registration area, which, in 1932, included all but one state (Texas). However, within any one state a comparison of the figures of 1920 and 1932 certainly reveals the status of the practice of obstetrics in that state.

TABLE III. MICHIGAN MATERNAL MORTALITY

Rate in 1920, 9.3 per 1,000 births  
Maternal deaths in 1932, 548

Maternal deaths would have been 857 under the 1920 rate, a saving of 309 by better obstetrics.

Had the Michigan rate been equal to the lowest state rate, there would have been only 372 maternal deaths, instead of 548, a difference of 176.

Applying the rate of the lowest mid-western state, there would have been 171 fewer deaths in Michigan.

Inasmuch as most women are delivered by the family physician, the profession of these midwestern states may well be proud of the improvement in obstetric practice since 1920. But our pride is somewhat dampened when we observe the low status of obstetrics in the midwest in 1920. Much of the percentage of improvement is due to the fact that we were so bad in 1920. All but Wisconsin had a rate, in that year, above

the national white rate of 7.6; Minnesota, 7.9; Ohio, 8.0; Indiana, 8.7, and Michigan 9.3.

The mortality rate in Detroit is approximately the same as in the entire state, 9.4 in 1920 and 6.2 in 1932.

The improvement of obstetric practice, by more than 35 per cent in the state of Michigan, is very commendable, for it has been not only rapid, but steady, which gives promise of being continuous.

In this state, in 1920, approximately ten (9.3) mothers were lost for every 1,000 live babies brought into the world. If obstetric practice had not been improved in 1932, over 1920, the maternal deaths would have numbered 857, instead of 548, a saving of 309 mothers to their families, the community and the state, by improved obstetric practice.

Commendable as this record is, it is not enough to place Michigan on a par with the states with the lowest maternal mortality rates. With all the improvement, its maternal mortality rate is only slightly below the national rate, including blacks, and is higher than the national white rate. Had the Michigan rate been equal to the lowest state rate, there would have been 176 fewer maternal deaths; if as low as the lowest mid-western state, 171 less deaths, and if the rate were the same as the mid-western states, with almost identical population and economic conditions, there would have been 70 more women saved. If, however, obstetric practice continues to improve, as it has during the past decade, Michigan will soon join the select circle of states, with a maternal death rate of which to be proud.

The writer believes that one of the factors in the past improvement has been better medical education, hence higher grade obstetrics practiced by the family physician. If to this be added the education of women to the necessity of care during pregnancy, as well as in labor, and to report to their physicians as soon as they know that they are pregnant, and then follow his directions, there is no doubt that the maternal mortality will fall. Any amount of improvement, in the quality of obstetrics practiced, cannot reduce maternal mortality if women will not place themselves under the care of their physicians as soon as they become pregnant.

Country practitioners persistently insisted to the writer that he was preaching a doctrine impossible of accomplishment in rural

districts, but, being somewhat stubborn, he continued telling his students that farm women were quite as intelligent and as appreciative of good care as city women, and would come for pregnancy care, if the advantages were carefully explained to them.

Now hundreds of our graduates are giving prenatal care to fifty, seventy-five, and even ninety per cent of all the women whom they deliver. Perhaps this, together with the intensive education of Minnesota women for motherhood, conducted by the Minnesota Department of Health, may account for the 44 per cent reduction in maternal mortality in Minnesota, in one decade.

The principal causes of maternal deaths are infection, toxemia and hemorrhage.

The percentage of the total maternal deaths due to each cause has remained essentially the same: approximately 40 per cent due to puerperal sepsis, 25 to toxemia, 10 per cent to hemorrhage and 25 per cent to all other causes. Seventy-five per cent of all maternal deaths are due to the three principal causes, all of which are largely preventable.

In Michigan, in 1931, there were 217 maternal deaths from infection, 39.5 per cent of the total. There were 115 deaths from eclampsia and other toxemias, 21 per cent, and from hemorrhage, 68 deaths, 14.2, a total of 74.6 per cent from these three chief causes.

### Puerperal Infection

The maternal deaths in the nation, from puerperal septicemia, have decreased scarcely at all; in 1920, 2.7, and in 1931, 2.5 per 1,000 live births, while in Michigan the decrease in septic deaths was 30 per cent, due largely to the very high rate in 1920, 3.4 per 1,000 live births, higher than the national rate of 2.7.

In 1931 it had dropped to 2.4, a trifle lower than the national rate of 2.5 per 1,000 live births.

It is evident that much cleaner obstetrics is practiced in Michigan now, than in 1920.

Had the same rate prevailed in 1920, there would have been 300 deaths from puerperal infection, instead of 217, in 1931.

### Toxemia and Hemorrhage

Unfortunately, we are unable to give the comparative figures for the other two principal causes of puerperal deaths, toxemia



and hemorrhage, because the U. S. Census Bureau reports are lacking in these data. But inasmuch as we have already shown that the percentage of deaths from each cause is in the same ratio in Michigan, as in the nation, it is safe to assume that deaths in this state from toxemia and hemorrhage have decreased in the same proportion as those from puerperal infection.

The object of this study is not to satisfy a flair for statistical analysis, but for the more profound purpose of determining what the situation really is, by means of the most extensive and reliable figures available, namely, the U. S. Bureau of the Census Reports. The results are revealing, disquieting enough to stimulate efforts toward improving conditions, and sufficiently encouraging to believe that improved conditions may eventually lead to a more satisfactory situation in the saving of still more mothers and their babies.

We have found by this study that the birth rate in the United States has fallen 26.5 per cent since 1920; in Michigan, 30.9 per cent and that this decrease cost the state of Michigan 38,340 babies in 1932, probably 150,000 over the entire period.

This is enough to make the people "view with alarm" the falling birth rate.

Can the decreasing birth rate be changed?

The forces contributing to it, especially contraception, will be difficult to alter.

Probably nothing but a changed attitude toward human values, children, and the family, indeed a spiritual revolution, will induce married couples to reproduce themselves, at least, by having an average of 3.4 children per family, the number necessary to maintain a stable population.

There is no present evidence of such an idealistic change in the American people.

As Raymond Pearl says: "A man may be induced by patriotic motives to die for his country, but hardly to procreate children for her."

In the face of a decreased number of conceptions, the stable death rate and the disappearance of immigration, only one factor in population growth is left to counteract the falling birth rate, namely the preservation of every conception, that does occur, to maturity and the birth of a healthy, uninjured baby.

It seems a unique situation that the chief danger to population growth and our national life should be solely dependent for

solution upon the proper practice of obstetrics.

A little improvement in the birth rate may be expected with the passing of the depression, but it will not be great, for we know that the greatest decrease was during the years of prosperity, immediately after 1925.

If the birth rate cannot be materially changed, its effects can be largely counteracted by saving many of the babies now lost unnecessarily by abortion, stillbirths, prematurity, syphilis, toxemia, prolapse and compression of the umbilical cord, malpresentations, dystocia, asphyxia, and birth injuries. If every physician could save only one baby for each of these conditions, the birth rate would immediately rise to and remain at a figure which would be satisfactory from every point of view.

In a previous statistical analysis of the national infant deaths, the writer found that an average of 70 per cent of these fatalities were preventable.

Certainly it is reasonable to assert that 50 per cent of all babies lost before, during, and soon after labor, should be saved.

There is one phase of obstetric practice which is very disquieting and that is the enormous increase of infant deaths from birth injuries. These deaths have increased 30 per cent since 1920.

There were 10,217 birth injury deaths in the United States in 1931, 422 of these were in Michigan.

"The most striking change in obstetric practice in the past decade and a half has been the great increase in operative deliveries; a certain few have raised their voices, on every occasion, against the rising tide of radicalism, but apparently without stemming the rise." (Plass.)

Holland, after an analysis of hundreds of cases, with and without proper care, concluded that 52 per cent of neonatal and natal deaths could be prevented: 20 per cent by good care during pregnancy alone, 20 per cent by proper care during labor alone and an additional 12 per cent by combined prenatal and natal care, a total of 52 per cent.

Experience in well conducted maternity hospitals and teaching institutions proves that three-fifths (60 per cent) of fetal deaths from toxemia and complications of labor, and all the deaths from syphilis, can be avoided.

TABLE V. POSSIBILITIES OF COUNTERACTING DECREASED BIRTHS

"Fifty-two per cent of infant deaths can be prevented by prenatal, intranatal and neonatal care." (Holland.)

1. *By limiting contraception to reasonable indications.*
2. *By preventing abortions.* (a) Threatened. (b) Induced.
3. *By preventing stillbirths.* Seventy-five per cent are due to preventable causes.
4. *By treating syphilis, toxemia, et cetera.*
5. *By preventing prematurity.*
6. *By preventing birth injuries.* Chiefly due to too many versions and forceps deliveries. Assuming that 50 per cent of infant deaths are preventable is conservative, therefore *OF THE 4,797 SUCH DEATHS IN MICHIGAN, IN 1931, 2,398 COULD HAVE BEEN SAVED.*

It has been thoroughly, repeatedly, and convincingly demonstrated by leading obstetricians and teachers that clear-headed, dextrous and conservative obstetrics will save for future citizenship a majority of the babies who now perish. Public welfare demands that the known, completely demonstrated life-saving measures be practiced throughout the country to save babies, whose social importance is particularly emphasized by their rapidly decreasing numbers.

The study also reveals that the practice of obstetrics and the consequent maternal and fetal mortality was at a very low ebb in 1920, in spite of the propaganda for better obstetrics, which had been going on for a full decade.

By 1932, however, continued agitation of the subject showed an improvement in the mortality rate of 21.1 per cent in the nation, 35.4 in Michigan, and 44.0 in one other mid-western state, which is encouraging, even if not quite sufficient.

The national white rate of 5.8 has approached the average foreign rate of 5.4 per 1,000 live births and several states were under the foreign rate.

The improvement in the national mortality rate from infection, the principal single cause, dropped only 7.4 per cent, while the Michigan rate fell 20.5 per cent.

These figures are encouraging, but must not make us complaisant, for well conducted obstetric services in teaching hospitals show rates which are much lower.

The mortality rate from unavoidable causes should probably be in the neighborhood of two per 1,000 live births.

How may this low rate be obtained?

Self-evidently, by meticulous care during pregnancy to detect any abnormality, and bring the mother to her confinement, fit for her labor, by sane, clean, watchful, and conservative handling during labor and delivery, with the least possible injury or interference.

When such methods prevail, fewer women will die of infection, hemorrhage, toxemia, and other complications, and more babies will be born alive and survive.

## THE CHANGING ASPECT OF DERMAL LESIONS IN RELATION TO INTERNAL ABNORMALITIES

R. C. JAMIESON, M.D.†  
DETROIT, MICHIGAN

In a comparison of dermatologic textbooks issued at widely separated periods it is at once apparent that in several ways dermatology has advanced immeasurably in many directions. One of the chief advances has been in the direction of etiology, and nowhere is it more apparent than in the recognition of the fact that many dermatoses are not purely local manifestations, but are due to many and varied underlying conditions of internal origin, either concomitant with or independent of diseases of the viscera, cardiovascular system, sympathetic nervous system, or the chain of endocrine glands which play such an important rôle in so many obscure conditions.

It may, indeed, be truthfully said that the

\*Read before the section of Dermatology, 69th annual meeting of the Michigan State Medical Society held at Battle Creek, September 12 and 13, 1934.

†Dr. R. C. Jamieson is a graduate of the Detroit College of Medicine and Surgery. He specializes in dermatology. He is the president of the Wayne County Medical Society for the year 1936.

best dermatologist is he who is the best internist. No longer can the dermatologists be said to recognize only two types of dermatoses (the pruritic and the nonpruritic) or treat all cases with either sulphur ointment or zinc oxide.

We are constantly more and more im-



pressed with the intimate relationship between the outer covering of the body and the internal machinery. As in any complex engine any deviation from normal function is manifested by an unusual noise, a squeak or other sound to indicate trouble, so in dermatology the appearance of certain types of lesions on the skin is the same as the squeak or noise in mechanical contrivances and search must then be made to discover which of the many complex systems is in need of repair.

Acute conditions due to foods, drugs, and to all types of allergy are too numerous to mention and do not come within the scope of this discussion. They would at once take us into the field of all forms of anaphylaxis, acute and chronic dermatoses of the urticarial and eczematous varieties, as well as some forms of acne, each case requiring searching inquiry into all forms of ingesta. Nor can we consider here the possibility of the various types of toxemias which may not be due to sensitization.

In many instances in the past we have been all too prone to accept the first possible etiologic factor as responsible for some of the obscure conditions, but now we must revise our methods and continue the search even farther.

In reviewing many acute and chronic diseases that are primarily diseases of internal organs, one realizes with a shock that a very large number may have associated dermal lesions which may, or may not, be of importance.

In spite of the fact that the alimentary canal has thirty feet of absorbing surface there is very little in the way of definite dermatoses that can be attributed to this viscus. Transitory erythemas of all sorts due to toxemias are, of course, frequently seen and the influence of gastric secretion is producing acne rosacea is well known. Here, also, stomatitis is often found to be a sign of an obscure gastro-intestinal state. Certain types of eczemas may also owe their origin to disturbances in this area, but they are not definite enough to state that they are of gastro-intestinal origin per se. Indirectly, gastric changes are productive of so-called "nervous dyspepsia" which may be a factor in neuro-circulatory dermatoses.

With the passing of typhoid fever the rose spot is practically no longer seen, although 30 years ago we had this lesion emphasized as one that would be frequently

encountered and might cause difficulty in diagnosis.

With the exception of jaundice and pruritus, hepatic diseases per se are not productive of dermatoses, although the rôle of the liver in damage by metallic poisoning with subsequent exfoliative dermatitis is well known.

A recent article by Bassi<sup>2</sup> would incriminate the liver as a cause for the development of photosensitive substances in the blood in cases of pellagra, even though the presence of porphyrin in blood or urine may not be demonstrable.

It is difficult to ascribe any definite dermatosis to nephritis or any of the allied conditions of the kidney. Many dermal lesions may be associated with abnormal renal function but purpura appears to be the only condition appearing with any great frequency which may be found in both mild and severe forms in all types of nephritis.

Chargin and Keil,<sup>3</sup> in their review of the subject, noted tendency for concomitant lesions of other types to become hemorrhagic during the course of a nephritis. Few cases of purpura were observed in which the urea was below 25 mg.

Pruritus was often observed and may be precursor of uremic states. Dryness and pigmentation was noted in this series, especially on exposed surfaces.

While pulmonary diseases may occur which are followed by various types of dermatoses of the toxic variety, the lungs, per se, cannot be said to be responsible for any definite dermatologic manifestations.

A generalized carcinomatosis may have had its inception in the lung, a pleuritic attack may be the foundation for a tuberculous state and subsequent tuberculids.

In pneumonia, herpes labialis is almost always present. Erythema of the cheek of the affected side is also stated to be a regular symptom.

In association with asthma and hay fever we encounter all types of allergic, eczematous and urticarial eruptions, but that path leads into an endless maze of the known and unknown and concerns chiefly noxious agents introduced into the body or applied from without.

As dermatologists we assign cases of heart disease to the internist, but it is not infrequent to find that endocarditis is productive of various eruptions on the skin consisting of petechial rashes, hemorrhages in

the palms and soles, erythematous exanthems or small, painful, cutaneous nodes. These last are small, red, raised lesions of the hands and feet, last a few days and are designated "Osler's nodes."

Of lessened dermatologic interest is the clubbing of finger ends reported due to mitral insufficiency and the changes in peripheral circulation due to thrombo-angiitis obliterans.

Splenic changes as the primary etiology of dermal lesions would be difficult to determine as practically all epidermal changes associated with splenic disease are secondary and are the result of anemias, leukemias and hemorrhage into the skin.

Pancreatic disease, per se, has no recorded instance that could be found as the primary factor of a dermatosis. Its association, however, with diabetic states is well known and it hardly requires mention that pruritus genitalis, furunculosis, carbuncle, eczema, fungous infections of the intertriginous variety, xanthoma diabeticorum, purpura, gangrene, or pigmentations are some of the conditions that may supervene on the diabetic state. Other conditions may be added to this list later, in addition to necrobiosis lipoidica diabeticorum recently added to our literature.

Of all the abdominal viscera the pelvic organs seem to be the least maligned. Even though that is probably true we should not forget that the pelvis contains viscera that are frequently diseased and in abnormal states. Herpes gestationis is occasionally observed and naturally treatment is unavailing until the termination of gestation. An allied state, dermatitis herpetiformis, has also been apparently cured by return of the pelvic organs to normal and it is quite within the realm of possibilities that other obscure dermatoses may be related to salpingitis, cellulitis or some ovarian abnormality.

Having absolved the viscera from many of the evils attributed to them, let us consider, briefly, local and systemic infections which do not belong to the external group.

When one considers the great number and variety of pathogenic organisms, which can gain access to the body through so many avenues, the marvel is that there are so few who show evidence of such invasion by ensuing dermatological manifestation.

All possible organs have been incriminated in the matter of focal infection, but

it would seem that focal infection could most properly be assigned to the teeth, tonsils, sinuses, gall bladder, appendix, lymphatic glands and prostate.

In spite of so many locations where septic absorption may occur and in spite of so many different types of infection, the exanthems depending on focal infections are not of any particular form. They have, in general, a tendency to be macular, papular or even vesiculated, of the eczematous type and to appear anywhere. They may be acne-form, may imitate tuberculids of the lupus erythematosus variety, be purpuric, or even simulate or imitate psoriasis. In gonococcal foci of infection the result may be keratoderma blennorrhagica and the prostate may prove to be the offender in some of the unexplained obscure dermatoses.

Instances are also recorded of lesions of the hands and feet of the pompholyx and dermatophytid types in which treatment was unavailing until foci of infection in teeth and tonsils were removed. This should not be taken to mean that they should be removed in all resistant cases, but should be always considered in the etiology. Recurring erythema multiforme may eventually be found to be due to a residual focus of infection as many toxic eruptions simulate the lesions of this disease.

Changes in the blood and the hematopoietic system can today be held responsible for many of the unusual dermatoses and as our knowledge increases we may find that the common expression, "It's due to the blood," may be more often correct than we have been inclined to believe in the past.

In the anemias we find dermal changes which may be only pallor, vascular spasm of Raynaud's disease or even petechiæ. These symptoms, in turn, may be due to aortic insufficiency or to some systemic toxemia such as lead poisoning.

Pernicious anemia usually has lesions of the skin of minor importance. The color is apt to be lemon yellow with a retention of fat, or sometimes be a brownish tint simulating Addison's disease. Leg ulcers, simulating lues, have been observed in sickle-cell anemia.

It is with the abnormal states of the leukocytes and the blood-forming organs, however, that we find most of our dermal lesions rather than with erythrocyte abnormality.

Due to the work of Keim<sup>6</sup> and others



we are beginning to coördinate various groups into a class which might be termed neoplastic blood changes in which we find links connecting the various diseases. The acute and chronic lymphatic leukemias, mycosis fungoides, and Hodgkin's disease are all linked together with their varying blood picture and lymphatic changes, even though they may be widely variant in their symptomatology at their inception. The symptoms of these conditions are too well known to require repetition.

In one of the newest of the leukocytic aberration group, agranulocytosis, there are accompanying dermal changes reported in some of the cases. Whether this condition of neutropenia is proved to be a disease *sui generis* or to be due to drugs of the benzene group, skin lesions are encountered, but are usually of secondary importance. Many appear to be rapidly developing erythematobullous lesions which soon become areas of superficial gangrene; others have been described as small, dry, necrotic papulofuruncular lesions. An analysis of these will be presented at a future date.

In discussing dermatoses due to or associated with disturbances of the circulatory and nervous systems we need only to refer to the admirable presentation before this section last year of the dermo-neurocirculatory syndrome.

It might almost be said that there are no absolutely definite symptoms which appear the same in all individuals and which could, therefore, be classed as a clinical entity. Yet I feel that Dr. Herrick<sup>5</sup> was right in putting certain types of eczematoid dermatitis in this group. The group to which I refer is one in which nummular or larger patches of the erythematovesicular type appear rapidly, usually on the hands, arms, neck, or legs, associated with marked evidence of neurodisturbance, either functional or secondary to some indefinite internal aberration of undetermined origin.

The type of sharply outlined patch seen in these cases with the reddened, slightly elevated base, covered with rapidly developing and rupturing vesicles, profuse exudate, serous crusting, intense itching was conclusively demonstrated to me in a patient seen recently at Harper Hospital.

This patient had had patches of this type developing on the legs, gradually extending up the legs and trunk until they reached the lower border of the scapulæ. They were bi-

lateral and were symmetrically distributed. Accompanying these lesions was an increasing ascending lesion involving the cord. My interest was still further increased by the postoperative report. This showed that he had an arachnoiditis extending up to the level of his dermal lesions. The skin lesions have disappeared entirely since the operation.

Most of these cases have an extremely unsatisfactory response to therapy and usually require an endocrinologist or psychiatrist, and can often be found to depend on a toxic thyroid, neurasthenia, mental and financial stress, etc.

These lesions, while of nerve origin, I believe to be of entirely different primary origin from those we see in lichen simplex chronicus of the neurodermite type.

In reviewing this phase we might consider for a moment the symptoms that are stated to belong to abnormalities of the sympathetic and parasympathetic or vagotonic systems. The nervous system, in general, may be influenced by the central nervous system, especially the emotions, or the reverse may be true and the action of the sympathetic and parasympathetic systems be antagonistic when in the same organ. It may be of interest to compare the different forms of dermal lesions which may be observed in *overactivity* of these two systems:

*Sympathetic*

dilated pupils  
prominent eyes  
dry mouth  
dry skin  
tachycardia  
decreased sugar tolerance  
atony of intestinal tract

*Parasympathetic*

small pupils  
flushing  
clammy hands  
salivation  
sweating  
bradycardia  
dermographia  
hyperacidity  
cardio- and pylorospasm  
spastic constipation

While these are not all dermal lesions, consideration of all symptoms must be made in order to arrive at a diagnosis.

To make the subject more difficult, many persons show symptoms of hyperactivity of both sympathetic and parasympathetic systems at different times, but it should be always remembered that the sympathetic system is closely allied to the endocrine system and stimulation of the endocrine may

cause an increased activity of the sympathetic, particularly if that occurs in the adrenals or thyroid.

Both hyperhidrosis and hypohidrosis may be of interest to dermatologists, but in general only on account of fetor or maceration of the skin favoring the development of infections.

There is usually some disturbance of the nervous system to account for these abnormalities such as toxic goiter, neurasthenia or nerve irritation in localized hyperhidrosis. Disease of the sympathetic ganglia may also cause unilateral sweating.

Disturbances of sensation, acroparesthesia and erythromelalgia, while only rarely seen by the dermatologist, may be discovered to be due, in the case of the former, to arterial degeneration and ischemia, or, in the latter disease, spinal cord disease may be discovered.

In the event of paralysis of peripheral nerves the skin becomes smooth and glossy, reacts to slight injuries and easily ulcerates. The nails may be retarded in their growth or become curved, while the hair may show a local grayness.

For many years we have been trying to discover vitamins and the dermal results produced by a subnormal quantity in the diet. Those that are already well known, of which pellagra is the best example, need no discussion, although it has now been found that liver extracts by mouth plus an appropriate diet form a most efficient method of treatment.

Several references have been made to deficiencies in Vitamin A in the production of keratomalacia, but also to an apparently definite type of dermal lesion in association with that condition.

In 1931, Frazier and Ch'uan K'uei Hu<sup>4</sup> reported this syndrome in a group of 15 Chinese soldiers who had no symptoms of pellagra, beri-beri, or scurvy. Their diet had consisted of rice, maize, millet, wheat flour, cabbage and salted vegetables.

The skin lesions were preceded by dryness and roughness of the skin. Development of spinous papules at the sites of the hair follicles followed. These appeared first on the thighs and upper forearms and then gradually spread to the upper and lower extremities, the shoulders and abdomen. Some lesions had a pigmentation of a slate color. The articular folds were dry and covered with closely adherent delicate scales.

Each papule held a keratotic plug which left a gaping crater on removal. The skin of the face was dry but showed a number of comedones.

In 1933, Loewenthal<sup>8</sup> reported similar observations in Vitamin A deficiency in a group of prisoners, many of whom were of middle age. His cases showed acneform lesions with comedones, xerophthalmia and night blindness.

Recently, Cleveland White<sup>12</sup> reported a small series of cases of onychia which he believed due to hypovitaminosis (B<sub>2</sub> and D). These nails showed irregular, longitudinal ridging with short, transverse, semi-punctate depressions and all gradations were encountered up to dystrophy of the terminal portion of the nail plates.

He bases his contention on the fact that these conditions improved by the administration of food and medication containing Vitamins B<sub>2</sub> and D, although they had not improved with thyroid.

In our zeal to be certain of having our patients receive sufficient vitamins, the opposite effect is occasionally observed in which dermatoses develop from hypervitaminosis.

Pfister<sup>9</sup> has recorded two cases of a fine, papular rash superimposed on an erythematous base resembling many early eczemas, and usually situated on the face. He believes this has been chiefly observed since the use of viosterol and haliver oil. The eruption in his cases was due to the administration of three teaspoonfuls of viosterol daily. The lesions soon disappeared after the medication was discontinued, but a repetition of the dosage was followed by the same results.

Reed,<sup>10</sup> also, has noted various symptoms of toxicity with gastro-intestinal disturbances but no dermal lesions.

It has undoubtedly been the experience of all of us to observe eruptions rather acute in onset with all the symptoms of a toxic eczema and find that the patient had indulged too freely in tomatoes, citrus fruits, et cetera. These lesions usually disappeared in a few days, on resumption of a normal diet. Without further experimentation it would be difficult to state that these cases were true hypervitaminosis or merely toxic.

A few cases in infants have come under my observation in which the lesions resembled an eczema, but were almost nonpruritic. The patients were all large, heavy, fat babies, usually overfed, and the lesions con-



sisted of small and large, reddish and yellowish-red patches of varying shapes and sizes. They were not elevated above the skin level, had no scale and were chiefly observed on the trunk, thighs and arms. Involvement of the lesions usually occurred in the course of a few weeks after the quantity of food was reduced and the excess vitamins and fats diminished.

Certain dermatoses have long been considered to be a result of pathology of the pelvic organs and this is especially true of chloasma. Even though the pelvic organs may be apparently normal, other viscera may be primarily involved and produce changes indistinguishable from the chloasma of pregnancy.

Likewise, obscure, pelvic inflammatory disease in women may be responsible for many of the indefinite, obstinate rosaceous eruptions which appear on the face at irregular intervals and are so rebellious to all treatment.

The last and greatest division of dermatoses directly and indirectly connected with internal organs consists of many diverse forms of eruptions embracing all types of lesions and which are all more or less etiologically obscure.

In all cases of endocrine pathology the manifestations must depend upon whether the secretion is altered in composition or if normal; how much it is diminished or in excess; the age of the patient at the time the change occurred and the sex of the patient.

If we consider six different possible functional states for the endocrines, it opens up a wonderful field for conjecture, as that would give 10,077,696 possible combinations for the production of abnormal results.

We should never forget that in all dermatoses of possible endocrine origin the history is very important, not only that of the patient, but the history of his family, and we should also consider all physical characteristics showing endocrine aberrations, such as height, weight, development, mentality, congenital defects, etc.

Let us consider, briefly, the conditions known to be associated with changes in each of the endocrine glands separately.

The thyroid appears to be the gland which has been incriminated more often than any of the others and it is not surprising that it should be, when one remembers all the

epidermal and vascular changes that may accompany thyroid disease.

Without producing definite dermatoses hypothyroidism may be responsible for a change in the appearance of the entire skin and its appendages. There may be an increase in bulk with the firm, elastic swelling of myxedema which does not pit on pressure. The skin is dry and rough. The hair is dry and lustreless, hypohidrosis is present, the eyebrows are scanty (especially the outer part). There may be a decreased coagulability of the blood, a tendency to hemorrhage or a secondary anemia with normal white count.

One would naturally expect to find the opposite conditions in the event of hyperthyroidism and here we encounter a moist skin with hyperhidrosis or cyanosis (the moist, clammy type) of the hands, neurocirculatory changes, neurodermite, urticaria, transient erythemas of the face and neck.

While a brilliant result may be obtained in some of these dermatoses by correction of the underlying gland pathology, only too often does failure follow such therapy and we must again seek a cause or consider the multiglandular possibility. Undoubtedly, too, many individuals may present the dermal evidence of hypo- or hypersecretion, yet have a dermatosis entirely unrelated to the endocrine system, and here, naturally, endocrine therapy would fail also.

The pituitary is being recognized more and more as a gland which has tremendous influence on the skin and its functions through the secretion of the anterior lobe in controlling growth and development and the secretion of the posterior lobe in governing the metabolism of carbohydrates and fats.

Without considering the abnormal growth and development of hyperpituitarism, the state of hypersecretion may result in many of the changes seen in hyperthyroidism. In one case of early acromegaly with chronic urticaria, x-ray of the pituitary improved both the headaches and the urticaria.

In hypersecretion of the anterior lobe hypertrichosis is increased on the torso if such hyperactivity occurs before adolescence; if post-adolescent, the increase is on the chest and extremities. In hyposecretion, the hair growth is normal if the "hypo" state is post-adolescent.

With "hyper" states we often find the skin coarse and thickened with exaggeration

of normal wrinkles and yellowish or brownish pigmentation.

As the posterior lobe is concerned with metabolism of carbohydrates and fats we find an increasing number of dermatoses directly or indirectly associated with changes in the quantity of posterior lobe secretion. With a deficiency we find obese individuals, subnormal temperature, drowsiness, slow pulse, dry skin, loss of hair and a high sugar tolerance. In many of these individuals we find many and varied types of the seborrheic state, many cases of intertriginous eczema with secondary yeast infections, furunculosis, etc. While these conditions are also observed in those who have no pituitary deficiency, we should always bear that possibility in mind, especially in adults who are obese or who consume great quantities of water and who develop unusual types of some of the common dermatoses. Some will improve only on the administration of pituitary extracts given in—to dermatologists—enormous doses, and we should bear in mind the possibility that those who have cold, dry, thick and rough or even scaly skins may be cases of hypopituitarism.

The possibility of *altered* pituitary secretion being a factor in the etiology of psoriasis has been considered in a previous paper.

Many dermal abnormalities are considered to be definitely related to alterations or variations in the adrenal secretion whether those are induced by purely functional changes or by disease of the gland itself. The majority of the gland changes here are produced by malignancy or tuberculosis.

The change in the skin most often recognized is the brownish to blackish pigmentation and soft verrucous growths of the axillæ and other flexural surfaces seen in *acanthosis nigricans*. Less frequently do we see diffuse mottled pigmentation of light yellow to deep brown color of Addison's disease with accentuation of the normal pigment on the mucous membrane of the mouth, conjunctivæ and vagina. This type of pigmentation may be simulated by other systemic states, such as pregnancy, hemochromatosis with cirrhosis of the liver, diabetic pigmentation, melanotic carcinoma, exophthalmic goitre, scleroderma, arsenical intoxication and argyria.

These pigmentary changes are variable but usually increase with the disease. The skin itself is usually soft, cool and smooth and

without wrinkling. The basal metabolic rate is also usually within normal range.

In hypernephroma or suprarenal tumor excessive virilism may be noted in childhood as well as hirsuties, which is apt to be general.

No mention has been discovered of any dermatosis related to excessive gonadal secretion and in all probability the only effect of such abnormality would be increased virility and hirsuties.

In case of abnormally low or entire lack of secretion many symptoms are reported which may be directly or indirectly related to various abnormal dermal states.

In the preadolescent we frequently find that many cases of intractable eczema, particularly the lichen simplex chronicus or neurodermite type, will improve or be entirely cured with the establishment of puberty. It is difficult to say, however, in the present state of our endocrine knowledge, whether the improvement results from gonadal secretion per se or from the stimulation of other glands, chiefly the thyroid and pituitary.

The chief disease of the puberal period, acne, has been recently treated experimentally with gonadal secretions, using hormone extracts of the opposite sex (Van Studdiford<sup>11</sup>). Better results were reported in late adolescents and adults, especially females. On account of the intimate relationship between acne and seborrhea, the latter might lend itself to treatment by these hormones, especially if they could be combined with the pituitary. It is too soon, however, to tell exactly how reliable this method will be or whether such treatment will have any subsequent deleterious effects on the individual's growth and type.

The somatic changes associated with eunuchoidism are too well known to require discussion, but as this condition induces premature senile changes, alopecia, et cetera, conversely, an abnormal growth of hair on the head or body, either in amount or date of appearance, is suggestive of an endocrine (gonad) change.

At the menopause indefinite forms of dermatoses are encountered, from vascular and erythematous lesions to eczematoid dermatitis which may be directly or indirectly dependent upon the lessened ovarian secretion. Many reports are on record of improvement or cure following administration of ovarian extract and it is easily conceiv-



able that the profound disturbances incidental to the climacteric could produce other endocrine alterations sufficiently pronounced to cause the indefinite varieties of dermatoses seen at that period.

Certain it is that obesity is a frequent concomitant of the menopause and it is in that type of individual where so often is found the intertriginous dermatitis, with or without other areas of seborrheic dermatitis, in which also we find so many cases of chronic, resistant, monilia infection. It would seem that this form of flexural dermatitis, submammary, intercrural and intergluteal, with the presence of monilia, is far too frequent to be purely accidental and we may in future improve the lot of these unhappy individuals by treatment of their endocrine systems as well as by local treatment. These patients may or may not have a diabetic state, but if such is present it may be a true diabetes or a pituitary change only.

While no definite function is ascribed to the thymus, nor are any dermatoses recognizably associated with any disturbance of that gland, x-ray stimulation has produced temporary improvement in a number of cases of chronic psoriasis. In the course of this work one patient stated that he had a slight one-sided mammary enlargement whenever he took thymus extract.

The last of the endocrines which is now receiving a great deal of attention are the parathyroids and their relation to calcium metabolism. While it has seemed to us that calcium administration has been greatly overdone and used in an indiscriminate manner, it is nevertheless true that a certain percentage of cases has been improved with its use and when our knowledge of the parathyroids and their influence on body metabolism has been augmented by further experimentation, we may discover that some of our most obscure and rebellious conditions are etiologically related to these glands. It has been unfortunate that reference has been made in the past to Von Recklinghausen's disease without specifying whether it

was osteitis fibrosa cystica or neurofibromatosis of the skin, but Lehman<sup>7</sup> believes the two conditions are related and describes cases of neurofibromatosis in which bone cysts were found. Ballin and Morse,<sup>1</sup> also, connect bone cysts with disturbance of calcium metabolism due to parathyroid change and many features of neurofibromatosis would lead one to seriously consider the etiology of that disease to be dependent upon endocrine change. If Recklinghausen's disease of the bones and Recklinghausen's disease of the skin are proved to be related or the same disease, we may find in the parathyroids a cure for that incurable dermatosis. As a possible clue to determine the possibility of calcium deficiency, we must look for abnormalities in the skin appendages, such as brittle, grooved or shedding nails, falling of the hair and alterations of the teeth, any or all of which may indicate parathyreopriva in some of the dermatoses, scleroderma and morphœa.

Many conditions such as pemphigus and lupus erythematosus disseminatus could be mentioned only to deplore the fact that there is no known etiology and no adequate treatment.

The field of investigation in the realm of dermatoses of unknown and internal etiology is still wide and beckons to the younger dermatologists who have the ability and desire to solve those problems that have been hitherto unsolved mysteries.

## References

1. Ballin and Morse: *Am. Jour. Surg.*, 12:403, (June) 1931; *Ann. Surg.*, 94:592, (October) 1931; *Trans. Amer. Surg. Assoc.*, 49:178, 1931.
2. Bassi: *U. Clinica Medica Italiana*, 65:241, (March) 1934.
3. Chargin and Keil: *Arch. Derm. and Syph.*, 26:314, (August) 1932.
4. Frazier and Ch'uan K'ui Hu: *Arch. Int. Med.*, 48:507, (September) 1931.
5. Herrick: *Mich. State Med. Jour.*, 33:516, (September) 1934.
6. Keim: *Arch. Derm. and Syph.*, 19:533, (April) 1929.
7. Lehman: *Arch. Derm. and Syph.*, 14:178, 1926.
8. Loewenthal, L. J. A.: *Arch. Derm. and Syph.*, 28:700, (November) 1933.
9. Pfister, F. F.: *Jour. A. M. A.*, 102:533, 1934.
10. Reed, C. I.: *Jour. A. M. A.*, 102:1745, 1934.
11. Van Studdiford, M. T.: Read before the meeting of the American Dermatological Association, New York, June, 1934.
12. White, Cleveland: *Jour. A. M. A.*, 102:2178, 1934.

## PERI-ANAL SUPPURATION AS A FOCUS OF INFECTION\*

LOUIS J. HIRSCHMAN, M.D., F.A.C.S.†  
DETROIT, MICHIGAN

As I have recorded in previous articles on the subject of focal infection the anorectal region is one of the most fertile of all foci and up to a few years ago was entirely ignored in the study of patients suffering from those symptoms which we ascribed to focal infection.

As time has elapsed and our observation of patients suffering from focal infective symptoms has acquired a broader horizon, we are more than ever convinced that infective and suppurative conditions of the anorectal region must be given their proper evaluation in the study of the subject of focal infection. When one pauses to review the gross anatomy of the anorectal canal one is struck with the unfortunate placement of the anal crypts with the mouths of these crypts opening and directed towards the oncoming fecal current. It can readily be seen how the traumatic factor in the production of anal cryptitis has acquired such importance.

Swallowed foreign bodies, such as bits of bran, whole wheat, seeds, bone, shell, bristle, popcorn and indigestible cellulose and fibrous constituents of vegetable foods particularly, can enter and traumatize these open pockets which are located in such a precarious and receptive location.

Injured and traumatized crypts are easily infected and inflammation with subsequent suppuration is a natural consequence. Anal crypts are also traumatized by irritating and acrid liquid stools whether produced by interference with gastro-intestinal physiology, by altered function or caused by hypercatharsis.

Whether traumatized or infected, the anal crypt soon becomes an incubator in which various members of the streptococcus family thrive, and the products of this bacterial activity are soon carried to the lymphatic and general circulatory systems so that various symptoms in remote parts of the body are manifested.

Thanks to the earlier work of the dentists and the otolaryngologists, influenced in a large part by the contribution on the subject of focal infection, of the late Frank Billings, attention was directed to various pathologic conditions in the upper air passages and teeth, the eradication of which solved many

perplexing problems in patients suffering from symptoms directed principally to muscles, nerves and joints.

The profession has long recognized the fact that any disturbance of the normal physiology of the gastro-intestinal tract, and particularly the colon, produced various symptoms which were previously described as those of "auto-intoxication."

Patients used to complain of, and physicians discuss, attacks of biliousness, indigestion, dyspepsia, rheumatism, arthritis, neuritis, myositis, colitis and various reflex pains. Symptoms such as rheumatic muscular pains like lumbago, coccygodynia, as well as neuralgic infections like sciatica, were accorded the exalted position of disease entities.

We can all recall many sacrifices of the innocent vermiform appendix, the gall bladder and in many female patients one or both ovaries and tubes, with the hope of correcting some of the conditions which we used to consider as symptoms originating in the organs mentioned.

The administration of cathartics and of enemas temporarily at least dissipated some of the symptoms enumerated, but many were not relieved and others soon recurred. Some patients with definite arthritis, neuritic and ocular symptoms were either only partially relieved or not at all, after the removal of definitely infected tonsils, devitalized teeth, or abscesses from the jaws. In the search for other foci and the fact that so-called "auto-intoxication" was not relieved by the relief of constipation or at least the induction of bowel movements by the exhibition of cathartics, a further search was indicated to account for the continuance of infection after certain recognized foci had been eradicated.

The presence of suppuration in any part of the body, of course, indicates that not

\*Read before the Surgical Section of the Michigan State Medical Society, Battle Creek, Michigan, September 13, 1934.

†Dr. L. J. Hirschman is a graduate of the Detroit College of Medicine and Surgery. He specializes in proctology and is a member of the staff of the Charles Godwin Jennings Hospital, Detroit. He is, also, past president of the Michigan State Medical Society.



only local, but more remote symptoms of infection are present. It is virtually impossible to have suppuration going on in the body without it affecting the general system as is evidenced by leukocytosis even of a moderate degree. When one considers the opportunities for traumatization and infection present in the lower portion of the alimentary canal, and particularly the colon, rectum and anus, one is immediately struck with the enormous possibilities of generalized infection from absorption of toxic products originating in this the largest of all foci of infection.

A discussion of the disturbances, particularly of digestion and elimination with the accompanying symptoms of headache, vertigo, dizziness, nausea, impaired appetite, lack of ambition and diminished initiative, is a large subject in itself. Anything which interferes with the normal physiological elimination through the intestinal tract may be guilty of causing symptoms such as have been enumerated. Functional or organic interference with normal peristaltic activity involves the discussion of many more pathologic elements than the limitations of this offering will permit. Therefore, we will not deal with the problems of intra-abdominal pathology as represented by neoplasms, obstructions, or distortions by adhesions which, however, are of tremendous importance in dealing with the subject of focal infection.

It is to more closely focus attention to infection in the anal region that we must devote the short time at our disposal. As has been mentioned above, the crypts of Morgagni invite trauma and infection by their shape, position and the direction of their outlets. Trauma, therefore, is the most important factor producing an infective anal cryptitis. The anal crypts which surround the anal canal at or just below its juncture with the rectum are normal structures, whose function it is to secrete a heavy mucus to assist in the lubrication of the stools during defecation. They are not supplied with muscle fibers and are, therefore, unable to eject foreign material which may become lodged. The consequent irritation, ulceration and infection which follow, originate various types of peri-anal suppuration which may range from a simple cryptitis to a profound periano-rectal cellulitis or multiple abscesses.

Anal cryptitis is usually the first stage in the production of that somewhat common

but always important disease condition known as fistula-in-ano. After a careful study is made as to the location of the internal opening of an anal fistula, in an overwhelming percentage of cases this opening will be seen to originate from an anal crypt and in fully 70% of the cases this crypt will be located in the posterior half of the anal canal. A fistula is, after all, the terminal phase of a disease which usually starts in a traumatized crypt.

It is easily understood how, when suppuration has become established in this region, chronicity is the rule on account of poor drainage, constant motion of the parts and reinfection from the contents of the bowel. Because of the generous lymphatic and blood supply of this region, it can be easily understood why symptoms of a more general character can occur as a result of infection originating in this region.

Recognized symptoms such as pruritus ani, coccygodynia, or urinary irritation can all be easily traced to suppurative areas in this region. It is only after a real appreciation of the importance of running down every focus of infection when symptoms of a general character are present that the relative importance of peri-anal suppuration as a focus of infection is appreciated.

In the routine examination of a patient suffering from focal infective symptoms, examination of the anus and rectum should always be included. Through an anoscope the anal crypts will be found located just at or below the juncture of the rectum or at the point where the skin merges into mucous membrane. The dentate line is recognized by the appearance of small sawtooth-like projections known as anal papillæ and beneath or to either side of these papillæ will be found the anal crypts. They vary in number from five to twelve in the average individual.

With a small right angled wire probe or crypt hook, they can be easily identified. If the patient is suffering from cryptitis, the crypt areas will present a deep red appearance in contrast to the pearly pink of the normal mucous membrane. Usually when cryptitis is present, the papillæ will be enlarged and edematous or fibrous. In fact an enlarged or fibrous papilla is a definite indication that crypt pathology is present.

Internal hemorrhoids are found above the crypts. As internal hemorrhoids grow and undermine the crypts the papillæ appear to

be part of the hemorrhoid and are usually spoken of by uninformed practitioners as anal tags. In the course of the examination, muco-purulent or purulent material can in many instances be expressed from these crypts. The injection of bismuth paste or any colored solution into an external opening of a fistula will demonstrate the character and the location of the involved crypt, if the examiner will observe the emergence of the paste or the solution by employing the anoscope.

Inasmuch as it is quite important to secure information as to the infective organism, the crypts are cultured through the anoscope. The parts are cleansed and a platinum wire of the same shape and size as the silver probe used in the examination of the crypt is employed. This is inserted into the crypt and the crypt lining scraped so that a small amount of blood will appear. Broth culture tubes are inoculated with this and along with a specimen of stool are sent for bacterial study.

Inasmuch as most of the cases coming under our observation require not only the surgical eradication of the diseased crypts, but vaccine therapy as well, a description of the technic of culture and complement fixation as developed by Dr. S. W. Wallace, Director of Laboratory Service at the Charles Godwin Jennings Hospital, will be described.

In studying foci of infection the material for culture is diluted in plain broth and then transplanted to blood agar plates. After twenty-four to forty-eight hours, separate colonies of the various organisms present are fished and transplanted to a nutrient broth. These organisms are further classified as to morphology, sugar fermentation, etc. We also further test these organisms for antigen or toxin-producing properties.

After obtaining a good growth on broth the culture is centrifuged, the supernatant broth decanted and the residue put into suspension in saline solution. This suspension is diluted to a given strength found by experience to give the desired concentration.

We then run a complement fixation on 6 to 10 sera, using this suspension of the organisms as the antigen. The suspension showing the greatest degree of inhibition of hemolysis is considered the most active antigen or toxin-producing organism, and we feel leads to the primary source or sources of infection.

Colon bacilli will overgrow streptococci

and other organisms, and in order to eliminate the bacillus coli the material for culture is first incubated twenty-four hours in a one per cent soda bicarbonate solution to kill off these colon bacilli; then portions of this are transferred to the usual culture media.

Basically, the principle of complement fixation is the same as that of the Wassermann reaction, but the test as we use it to determine hypersensitivity to bacterial antigens is considerably modified.

In doing the test we depend on the complement present in the human blood being tested instead of inactivating the serum and adding a standardized guinea pig complement. In fact, one of the points of value in the test is to give us some idea of the complementary titre of the specimen being tested.

The antigen used is a standardized aqueous extract of the organisms. It takes from two weeks to a month to prepare this extract. A one-half of one per cent suspension of washed sheep cells sensitized with antishcep amboceptor is used.

We are using about sixty different antigens. The setup is as follows:

Each setup has its own control.

For each antigen there are three tubes containing .01, .02, and .04 c.c. of serum, respectively. To the control is added saline solution. To the others the standardized antigen is added. This setup is incubated in a water bath at 37 degrees for forty-five minutes.

The one-half of one per cent suspension of sensitized sheep cells is then added and the setup is returned to the water bath. This is watched, and when all these control tubes have cleared (completely hemolyzed) the setup is taken out of the water bath and the degree of inhibition of hemolysis noted. The greater the degree of inhibition of hemolysis the more strongly positive is the test.

A positive complement fixation, *i.e.*, inhibition of hemolysis, is indicative of an abnormal abundance of antibody in the blood serum and in or on the cells, *i.e.*, sensitizing the cells. According to the present conception, desensitization depends on the principle of desensitizing the cells; that is, on producing slight but frequent repeated allergic reaction by the administration of the allergen or vaccine, and thereby exhausting or removing antibody from the cells.

If an excessive amount of allergen or vaccine is given, the presence of the excess



allergen above that amount necessary to neutralize the antibody then stimulates further antibody formation, defeating the purpose of the administration of the allergen.

The patient is made worse and the degree of sensitivity is increased.

This can be demonstrated by the complement fixation test and, in our experience, the dose of vaccine has to be kept very low.

In making up our vaccine we use the stock organisms to which we find the patient sensitive, together with his autogenous organisms. These are used in concentrations of 10 to 500 organisms per c.c.

When a vaccine suited to the individual is prepared, 0.1 c.c. is administered subcutaneously, and the patient is watched for any symptoms of allergic reaction. This dose is then repeated for the second day, then raised to 0.2 c.c. and administered every five to seven days for a period varying with the individual reaction and progress of the case. The dosage is gradually raised to a maximum of 0.5 c.c. At the end of varying periods, according to the individual case, ranging from four to eight weeks, complement fixation tests are again made. In some cases it is necessary to change the composition of the vaccine and in other cases to increase or decrease the dosage and intervals of injection.

Our study of patients suffering from focal infection originating in peri-anal suppuration indicates that they fall into three classes:

1. The patient whose symptoms are of recent origin, who responds usually to eradication of the crypts either by cauterization,

sinusectomy, fistulectomy, cryptectomy or evacuation of the abscesses.

2. This class is smaller in size than the preceding and responds to correction of the intestinal function and the administration of autogenous vaccine.

3. This class, which is by far the largest group, comprises those whose symptoms are of a chronic character and require both the surgical removal of infected crypts, sinuses and abscesses, and a more or less prolonged period of autogenous vaccine therapy.

Time will not permit a discussion of the various types of operative technic employed in the surgical removal of areas of peri-anal suppuration nor will time permit of the recital of individual case records. Suffice it to say, however, that we are constantly being agreeably surprised at the relation between cause and effect which this study seems to indicate. The increasingly larger number of patients who have been afforded relief from distressing symptoms which we have proved to be of ano-rectal origin is a sufficient mandate to us to continue our efforts along these lines.

As it has been demonstrated that focal infection does originate in this part of the body, whether there are other foci or not, the patient should be given the benefit of this information, and the removal of diseased crypts carried out as previously indicated. The gratitude of patients relieved after this procedure, particularly those who have undergone various other treatments without having secured that relief, will amply reward the practitioner of medicine who will follow this method.

7815 E. Jefferson Ave.

## CANCER SURVEY OF MICHIGAN

Made by

FRANK LESLIE RECTOR, M.D.†

Changes taking place in the social organization of the United States are nowhere more evident than in the relation of the medical profession to the community. These changes concern both the type of disease encountered and the professional approach to methods of diagnosis and treatment of the sick.

Acute infectious and contagious diseases claimed the major attention of medical practitioners as long as they constituted an important part of medical practice. Out of experience in caring for these diseases many of the specialties of medical practice have arisen. But time and medical knowledge move on and new problems in human welfare take their place beside those of past years, in many instances crowding the old order off the stage of practical and economic interest.

Among the newer problems of medical and social interest and importance are the degenerative diseases now afflicting mankind in ever-increasing numbers. Scientific and sanitary knowledge has in large measure conquered the scourges of infection and contagion, but has proven far less effective against the more subtle conditions primarily dependent upon physiological and biological changes in aging human groups.

The communicable and infectious diseases with their known etiology, sudden onset with definite symptoms, rapid course, and early termination in recovery or death enabled a definite, standardized, and effective battle to be waged against them. The degenerative diseases with their insidious and often symptomless onset and non-specific etiology become firmly established before recognition, and the lack of an effective, standardized attack on their prolonged and incapacitating course only emphasizes the changes taking place in the relations of the medical profession to the social and economic order.

Of the degenerative diseases, cancer holds a place of major importance, now being in second place as a cause of death and responsible for 10 per cent of all deaths in the United States. Cancer has been known since the dawn of the historical era, but until the last thirty years was considered to be a hopeless condition and so treated, for up to that time little thought was given generally to early diagnosis and early treatment because cancer cases were so seldom seen and recognized in early stages that they excited

no special interest. As the problem was studied more intensively in the laboratory and clinically, it was found that many cases responded to adequate therapy, and there was hope and considerable assurance that cures could be expected if patients were seen sufficiently early.

An increasing interest in cancer research was stimulated by discovery of the therapeutic properties of roentgen rays and radium. This opened an entirely new approach to the diagnosis and treatment of cancer. Types of malignancy formerly considered hopeless were found responsive to radiation therapy to the extent of either making such patients comfortable over a much longer period than they had enjoyed previously or curing them. This stimulated further research in fundamental biological and physical problems, and such investigations are now being followed and extended widely. Laboratory investigations into etiological and related factors have advanced further than similar studies in clinical problems. The biologist, chemist, and physicist are now making more significant contributions to the fundamental cause and control of cancer than is the physician; but it remains the responsibility of the physician to make the practical application of these findings to an improved service to the cancer patient.

The unknown etiology and relatively small percentage of known cures compared to the number of patients treated make cancer one of the greatest challenges to medical science today. As a result of this increased knowledge, an added interest in the whole field of malignancy is being shown by professional, scientific and lay groups.

While certain facts are known about the cancer problem in general, there is a great paucity of information about specific phases of the question. This information is lacking

†Field Representative, American Society for the Control of Cancer, New York, N. Y., Clarence Cook Little, Sc.D., Managing Director.



especially as to facilities for adequate diagnosis and treatment, where such facilities may be found, also where they are deficient. Such information can be obtained only by careful surveys of hospitals, clinic groups, and other organizations concerned with this question.

The Michigan State Medical Society was one of the first such organizations to take official notice of the cancer problem. The first cancer committee was formed by action of the House of Delegates, September 15, 1930. A year later a brief report of this committee's work was published in the September, 1931, issue of the *JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY*. During this year the committee carried out a survey of facilities for diagnosis and treatment of cancer in the various counties, publishing the results of this survey as a supplementary report in the February, 1932, issue of the Society's *JOURNAL*.

This survey revealed that facilities for adequate diagnosis and competent therapy for cancer patients were lacking in all but a few of the larger cities and more populous counties of the state, and undoubtedly stimulated physicians and hospitals in other Michigan communities to provide such diagnostic and treatment facilities as were found during the present survey.

The Committee on Survey of Medical Services and Health Agencies of the Michigan State Medical Society in 1932 assigned to a sub-committee consideration of the cancer problem in that state. This sub-committee's report dealt largely with "the magnitude of the cancer problem of today, the probable future trend of the incidence as indicated by past experience, the general needs of the State in respect to the cancer problem, and the probable nature of the methods by which these needs will, or should, be met." The recommendations of this sub-committee are found in the report mentioned above and are recommended to the consideration of the members of the state medical organization. In many respects they parallel the findings and recommendations in this present report.

In 1933 the Cancer Committee of the State Medical Society was reorganized and one of its first recommendations to the council was that the American Society for the Control of Cancer be invited to make a survey of the State similar to those made in other states in the central west. According-

ly, at a meeting of the Executive Committee of the Council of the Michigan State Medical Society held in Lansing, October 4, 1934, the following official action was taken:

"The Secretary presented a communication from the Chairman of the Cancer Committee in regard to a proposed cancer survey by the American Society for the Control of Cancer, the plan having the approval of his committee. On motion by Luce, seconded by McIntyre, the Executive Committee voted to extend the invitation to the American Society for the Control of Cancer to conduct a cancer survey of Michigan along the lines outlined in their communication, subject to the understanding that there is to be no expense to the Society."\*

The Michigan Pathological Society also endorsed the survey at the annual meeting at Ann Arbor, December 8, 1934, by the following action:

"It was moved by Dr. O. A. Brines and supported by Dr. C. I. Owen, that the Michigan Pathological Society endorse the proposed cancer survey in Michigan to be made by the American Society for the Control of Cancer on the invitation of the Michigan State Medical Society. The motion was carried."

In keeping with the above invitation, the field work of this survey was carried out during January-April, 1935, and has been conducted with almost universal coöperation of hospital executives, medical staffs, and physicians in the cities visited. A few of the smaller hospitals of the State did not coöperate, as noted. Officers of the State Medical Society have given enthusiastic support to the work. The State Health Commissioner placed the resources of his department at our disposal and supplied the material for tables on cancer mortality incorporated in this report. Without this coöperation of the above mentioned organizations and individuals, this survey would not have been possible. It is a pleasure here to recognize and acknowledge their interest and assistance.

### Methods of the Survey

Before the field work was begun, the following questionnaire and covering letter were sent to all general hospitals in the State with a listed capacity of 25 beds or more, asking for information on bed capacity, equipment, methods of handling cancer patients, and statistics on their cancer experience during the year 1933.

\**Journal*, Michigan State Medical Society, p. 640, Nov., 1934.

December 1, 1934.

Upon the request of the Michigan State Medical Society, the American Society for the Control of Cancer is undertaking a survey of the hospital and medical facilities in that state for the diagnosis and treatment of cancer.

This survey will bring together for the first time in Michigan information on existing facilities for the diagnosis and treatment of cancer in its various forms, and should prove of benefit alike to the general community and those primarily interested in this disease. From the data assembled, a report will be prepared for the medical society with recommendations.

To make this survey as valuable and comprehensive as possible, your coöperation is earnestly requested. The enclosed questionnaires, one copy being for your own files, require a minimum of statistical work, the majority of the questions being answered by yes or no.

It will be greatly appreciated if the completed questionnaire could be returned not later than January 1, 1935.

Anticipating your coöperation in this important work, I am,

Sincerely,  
F. L. RECTOR, M.D.  
Field Representative.

Enclosures:  
Two questionnaires.  
Self-addressed, stamped envelope.

THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER  
1250 Sixth Avenue, New York, N. Y.  
HOSPITAL SURVEY OF CANCER FACILITIES IN MICHIGAN

1. Name of hospital?
2. Address of hospital?
3. Superintendent's name?
4. Number of beds (excluding bassinets)?
5. Number of beds designated for cancer patients?
6. Maximum voltage of x-ray machines in kilovolts?
7. Number of milligrams of radium owned by hospital?
8. Number of milligrams of radium owned by local physicians?
9. Does hospital rent radium? Purchase radon?
10. Is the laboratory equipped for embedded tissue examination? For frozen sections?
11. Is pathologist in charge a physician?
12. Is pathologist on full or part time service?
13. If part time, how many hours daily or weekly in attendance?
14. If no laboratory, where are tissues sent for examination?
15. Is hospital affiliated with a medical teaching institution?
16. Is there an organized tumor service?
17. Is there an organized Out-Patient Department?
18. Number of new cancer patients seen in Out-Patient Department in 1933?
19. Has hospital a social service department?
20. Is status of all cancer patients known five years after discharge?
21. Number of adult patients admitted to hospital in 1933?
22. Number of cancer\* patients admitted to hospital in 1933?
23. Number of hospital deaths in 1933?
24. Number of cancer deaths in 1933?
25. Number of autopsies performed in 1933?
26. Number of cancer autopsies performed in 1933?

Signed by .....  
Official position.....

Date.....

\*All malignancies.

With the exceptions noted each hospital contributing to the survey was visited and cancer problems discussed with the superintendent and such staff members as were available. Physical equipment of the hospital, particularly surgical, laboratory, and radiological equipment, was inspected. Some time was spent in discussing cancer problems with physicians known to be particularly interested in the work. As opportunity offered, talks were given to physicians, nurses, medical students, teacher training students, local women's auxiliaries and women's clubs on various aspects of the cancer control problem. A total of 54 such talks was given to an aggregate audience of approximately 5,000.

The information and statistical data collected during this survey have been analyzed and form the body of this report.

### Population Statistics

According to the Federal Census for 1930, Michigan's population was 4,842,325. Of this number 3,302,075, or 68 per cent, are classified as urban, and 1,540,250, or 32 per cent, as rural. Table I shows the population of Michigan by decades since 1810.

Ninety-six per cent of the population is white. According to the 1930 census, 169,453, or 3.5 per cent, were negroes. There were 13,336, or 0.3 per cent, Mexicans and 7,080, or 0.15 per cent, Indians. Illiteracy in the State in 1930 was rated as 2 per cent of the population ten years of age and over.

As noted from Table I, the population of Michigan is predominantly urban. There is one city of more than 1,500,000 population, two cities with more than 100,000 population each, and fourteen cities with populations between 25,000 and 100,000 each. Twenty-three cities have populations between 10,000 and 25,000, thirty-two with populations between 5,000 and 10,000, and forty-two with populations from 2,500 to 5,000.

The sex distribution of the population is 52.3 per cent male and 47.7 per cent female. There are 108.4 males per 100 females. Males outnumber females in both rural and urban areas. Table II shows the age and sex distribution of Michigan's population according to the 1930 census.

Comparison of Michigan with several neighboring states on the percentage distri-



TABLE I. POPULATION OF MICHIGAN BY DECADES  
1810-1930

Year	Total	Urban	Rural	Population Per Square Mile	Percentage Increase
1810	4,762	....	....	....	....
1820	8,896	....	....	....	86.0
1830	31,639	....	....	....	255.6
1840	212,267	....	....	....	570.8
1850	397,654	....	....	....	87.3
1860	749,113	....	....	....	88.4
1870	1,184,059	....	....	....	58.1
1880	1,636,937	....	....	....	38.2
1890	2,093,890	730,294	1,363,596	....	27.9
1900	2,420,982	952,323	1,468,659	42.1	15.6
1910	2,810,173	1,327,044	1,483,129	48.9	16.1
1920	3,668,412	2,241,560	1,426,852	63.8	30.5
1930	4,842,325	3,302,075	1,540,250	84.2	32.0

TABLE II. AGE AND SEX DISTRIBUTION OF MICHIGAN'S POPULATION  
1930

Age Groups	Total Population	Per Cent Total	Male			Female		
			Population	Per Cent Total	Male	Population	Per Cent Total	Female
State	4,842,325	100.	2,519,309	52.3	100.	2,323,016	47.7	100.
Under 5	463,441	9.6	236,070	50.9	9.4	227,371	49.1	9.8
5-9	486,970	10.1	246,844	50.7	9.8	240,126	49.3	10.3
10-14	455,469	9.4	229,865	50.4	9.1	225,604	49.6	9.7
15-19	416,886	8.6	209,141	50.1	8.3	207,745	49.9	8.9
20-24	418,202	8.6	212,341	50.7	8.4	205,861	49.3	8.9
25-29	415,964	8.6	217,402	52.2	8.6	198,562	47.8	8.5
30-34	391,854	8.1	207,425	52.9	8.2	184,429	47.1	7.9
35-44	730,395	15.1	398,081	54.5	15.8	332,312	45.5	14.3
45-54	496,896	10.3	268,310	54.0	10.7	228,586	46.0	9.8
55-64	308,484	6.4	161,285	52.3	6.4	147,199	47.7	6.3
65-74	181,117	3.7	93,843	51.8	3.7	87,274	48.2	3.8
75-up	73,774	1.5	36,977	50.0	1.5	36,797	50.0	1.6
Unknown	2,875	.1	1,725	60.0	.1	1,150	40.0	.1

bution of urban and rural population by sex is shown in Table III.

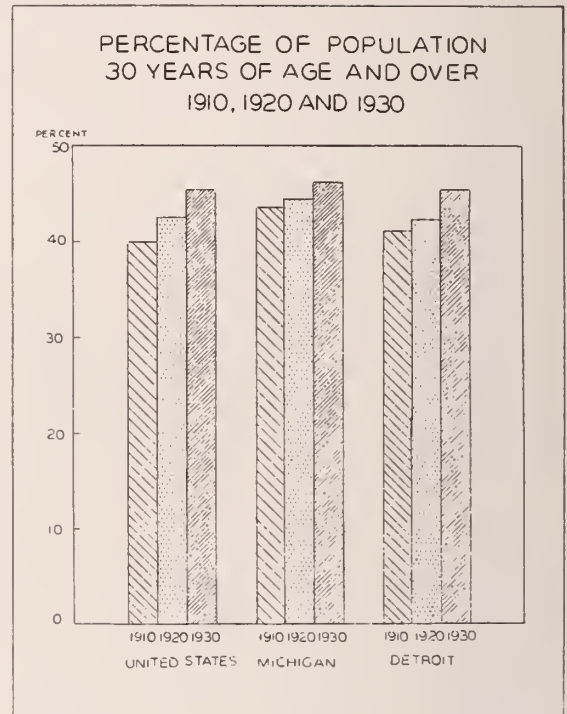
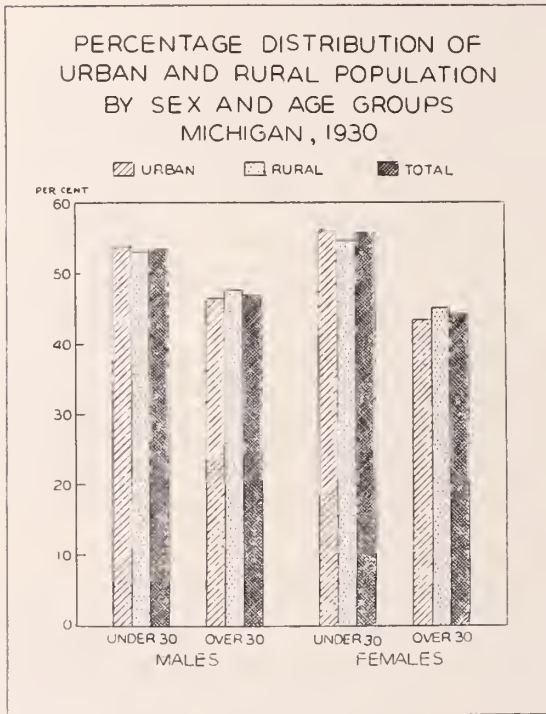
A further analysis of the urban and rural population of Michigan by sex and age groups with age 30 as the dividing line, shows that both rural and urban areas contain a majority of both sexes in the younger age group. These differences are indicated in Table IV.

TABLE III. PERCENTAGE DISTRIBUTION OF URBAN AND RURAL POPULATION BY SEX  
IN CERTAIN STATES  
1930

State	Total Per Cent		Urban Per Cent		Rural Per Cent	
	Male	Fe- male	Male	Fe- male	Male	Fe- male
Michigan	52.3	47.7	51.4	48.6	53.1	46.9
Illinois	50.7	49.3	50.2	49.8	52.3	47.7
Indiana	50.6	49.4	49.7	50.3	51.7	48.3
Ohio	50.6	49.4	49.8	50.2	52.1	47.9

TABLE IV. PERCENTAGE DISTRIBUTION OF URBAN AND RURAL POPULATION BY SEX  
AND AGE GROUPS  
Michigan—1930

Age	Urban			Rural			Total	
	Male	Female	Total	Male	Female	Total	Male	Female
Under 30.....	53.8	56.7	55.0	53.3	55.3	54.2	53.6	56.0
Over 30.....	46.2	43.3	45.0	46.7	44.7	45.8	46.4	44.0



According to Table V the age distribution of the population of Michigan shows no marked differences from that of other states in this same geographic area. Analysis of Detroit's population shows a marked increase in the percentage in the age group, 35-44, the only significant change from that of the State or the United States. This increase is greater in males than in females. In keeping with the United States as a whole, the population of Michigan is consistently becoming an older population. In the last twenty years there has been an increase of 2.4 per cent in the population age

30 and above. Based on the 1930 census, this gives an actual increase of 116,216 individuals in the higher age group in twenty years.

This percentage change in various age groups is again demonstrated when the age distribution for 1930 is compared to that of the standard million population familiar to statisticians, as shown in Table VI. This comparison shows that up to age 25 the real population grouping is below that of the standard million while the older age groups show a proportionate or larger increase.

TABLE V. PERCENTAGE DISTRIBUTION OF POPULATION BY AGE GROUPS 1910, 1920, 1930

Age Group	United States			Michigan			Detroit		
	1910	1920	1930	1910	1920	1930	1910	1920	1930
Under 5.....	11.6	10.9	9.3	10.6	11.0	9.6	10.5	11.3	9.3
5-9.....	10.6	10.8	10.3	9.8	10.0	10.1	8.7	8.9	9.4
10-14.....	9.9	10.1	9.8	9.2	8.9	9.4	8.0	6.9	8.5
15-19.....	9.9	8.9	9.4	9.5	8.1	8.6	9.3	7.1	7.8
20-24.....	9.8	8.8	8.9	9.4	8.6	8.6	12.0	11.0	9.7
25-29.....	8.9	8.6	8.0	8.6	9.4	8.6	11.3	13.2	10.9
30-34.....	7.6	7.6	7.4	7.5	8.5	8.1	9.1	11.6	10.2
35-44.....	12.7	13.4	14.0	12.8	13.7	15.1	13.8	15.1	17.6
45-54.....	9.1	10.0	10.6	10.2	9.8	10.3	9.2	8.4	9.4
55-64.....	5.5	6.2	6.8	6.7	6.6	6.4	4.7	4.4	4.4
65-74.....	3.0	3.3	3.8	5.3	3.6	3.7	2.4	1.8	2.1
75-up.....	1.1	1.3	1.6	.2	1.6	1.5	1.1	.7	.7
Unknown.....	.2	.1	.1	.1	.1	.1	....	....	....
Per cent 30 years and above.....	39.2	41.9	44.3	42.8	43.9	45.2	40.3	42.0	44.3



The rapid increase in Michigan's population during the last twenty years, caused mainly by the concentration of the automo-

bile and related industries in certain cities of the State, undoubtedly accounts for the higher percentage of males found in this

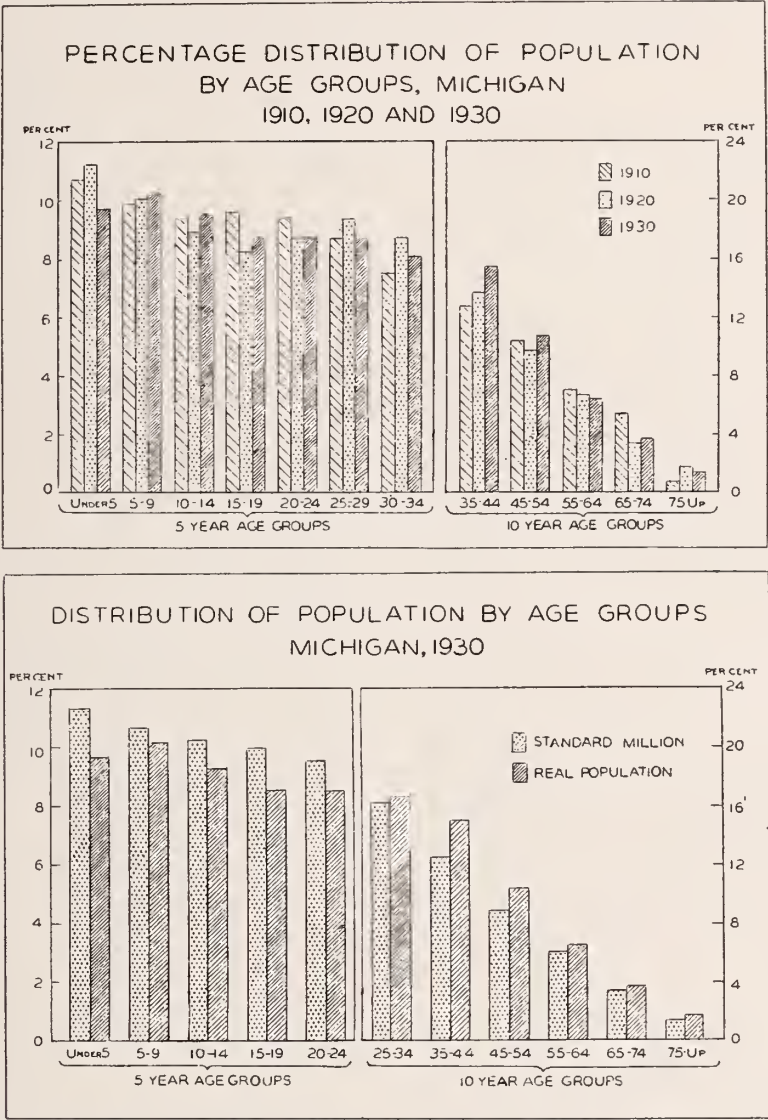


TABLE VI. AGE DISTRIBUTION OF POPULATION OF MICHIGAN COMPARED TO STANDARD MILLION DISTRIBUTION 1930

Age Groups	Standard Million		Real Population	
	Number	Per Cent	Number	Per Cent
Under 5	552,022	11.4	463,441	9.6
5- 9	518,126	10.7	486,970	10.1
10-14	498,757	10.3	455,469	9.4
15-19	484,232	10.0	416,886	8.6
20-24	464,861	9.6	418,202	8.6
25-34	784,453	16.2	807,818	16.7
35-44	595,603	12.3	730,393	15.1
45-54	430,972	8.9	496,896	10.3
55-64	290,543	6.0	308,484	6.4
65-74	159,803	3.3	181,117	3.7
75-up	62,953	1.3	76,649	1.6
Total	4,842,325	100.	4,842,325	100.

State in comparison with those of other states. This situation applies to both urban and rural communities. On further analysis the increase in the population 30 years of age and under in Detroit is more pronounced than in the State as a whole. This is particularly true regarding females, 58 per cent of whom in that city were 30 years of age and under in 1930 compared to 53.6 per cent for the State as a whole, and 56 per cent for the United States. The percentage of males 30 years of age and under is 53.6 per cent for both Detroit and the State as a whole. At age 30 and above, males exceed females by 165,923 for the State as a

whole, and by 67,140 for Detroit. In general the percentage distribution with age 30 the dividing line shows Michigan to have a slightly higher percentage of her total population 30 years of age and over, and this applies to both sexes as well, than has the United States.

TABLE VII. PERCENTAGE DISTRIBUTION OF POPULATION BY SEX AND AGE GROUPS  
Michigan and Detroit—1930

Age Groups	Michigan			Detroit		
	Total	Male	Female	Total	Male	Female
Under 5	9.6	9.4	9.8	9.3	9.0	9.6
5-9	10.1	9.8	10.3	9.4	9.1	9.8
10-14	9.4	9.1	9.7	8.5	8.1	8.9
15-19	8.6	8.3	8.9	7.8	7.2	8.6
20-24	8.6	8.4	8.9	9.7	9.2	10.2
25-29	8.6	8.6	8.5	10.9	10.9	10.7
30-34	8.1	8.2	7.9	10.2	10.6	9.8
35-44	15.1	15.8	14.3	17.6	19.1	15.9
45-54	10.3	10.7	9.8	9.4	10.0	8.7
55-64	6.4	6.4	6.3	4.4	4.3	4.6
65-74	3.7	3.7	3.8	2.1	1.8	2.3
75-up	1.6	1.6	1.7	.7	.5	.8
Per Cent 30 years and above	45.2	46.4	43.8	44.3	46.3	42.1

As noted in Table XI\* the cancer death rate in Michigan is below that for the United States as a whole. It has already been shown that the percentage of Michigan's population age 30 and above is higher than that for the United States. This fact alone would indicate the probability of a higher cancer death rate in Michigan than in the United States. As this is not the case, we must look further for an explanation of the lower cancer death rate in Michigan.

Three facts stand out in this analysis of the population of Michigan: one, the excess of males over females and the concentration of males in the age group 35-44 in Detroit; two, the high percentage of females in the age period 30 years and under in Detroit; three, practically all the increase in population in Michigan in the decade 1920-1930 was confined to persons 30 years of age and under. Cancer in males appears in the largest number of cases after age 45, and comparatively few females have the disease before age 30. Whether or not these differences in the population of Michigan have any appreciable influence on the cancer death rate of that state is a problem for further investigation.

\*Table XI will appear in December issue.

(To be continued in December issue)

### THOMAS McCRAE, M.D., D.Sc.

Dr. Thomas McCrae, Philadelphia, professor of medicine at the Jefferson Medical College, died June 30, at the University Hospital, following an operation for tumor of the spinal cord; aged 64. He was operated upon June 21 but had been in ill health for the past two years.

Dr. McCrae was born at Guelph, Ontario, Canada, a son of Colonel David and Mrs. Janet Eckford McCrae. He received his education at the University of Toronto, being awarded the degree of Bachelor of Arts in 1891; was a fellow in biology, 1892-1894; received the degree of Bachelor of Medicine in 1895, and of Doctor of Medicine in 1903. In 1907 he was made a Fellow of the Royal College of Physicians of London, and in 1924 was the College's Lumelien lecturer. He also did graduate work at the University of Goettingen. The University of Toronto awarded him the degree of Doctor of Science in 1927.

He became instructor of medicine at the Johns Hopkins University Medical School in 1900, was made associate in medicine in 1901, and in 1906 was made associate professor of medicine.

In 1912 he was appointed Magee professor of practice of medicine and clinical medicine at the Jefferson Medical College to fill the vacancy caused by the retirement of the late Dr. James C. Wilson.

He was a member of his county and state medical societies; a Fellow of the American Medical Association (chairman of the Section on Practice of Medicine, 1914-1915); a past president (1930) of the Association of American Physicians; a member of the American Philosophical Society. He was a member of the Toronto Club, a medical literary society in New York City; also a member of the Rittenhouse and University Clubs of Philadelphia, and the York Club of Toronto. He had been an associate of the late Sir William Osler and wrote extensively on medical subjects. He was the editor of Osler's "System of Medicine," and Osler's "Practice of Medicine."

The World War poem, "In Flanders Fields," was written by Dr. McCrae's brother, the late Dr. John McCrae, a lieutenant-colonel in the medical service of the Canadian Army Corps. The author of the poem, which was written on the battlefield, lies buried in Flanders Fields.

Dr. McCrae was of a very retiring disposition and shunned personal publicity, notwithstanding the many honors that came to him.—From the *Pennsylvania Medical Journal*.

### Anginal Symptoms Associated With Certain Constitutional Diseases

C. H. Beach, Richmond, Va. (*Journal A. M. A.*, Sept. 14, 1935), suggests a somewhat broader concept than anoxemia as the cause of anginal pain: that the paroxysms occur when the available energy is not equal to the demands made on the myocardium. It would appear that this energy deficit may be brought about by many different causes; for example: (1) reduced coronary flow or "ischemia," whether due to organic narrowing, spasm or shortening of the diastolic phase over a prolonged period; (2) a relative oxygen deficiency alone, as in anemias; (3) a relative deficiency in available fuel, as in hypoglycemia, and (4) an abnormally slow rate of oxidation of fuel to form energy, as in myxedema. With this broader concept in mind it behooves one to scrutinize each patient presenting anginal symptoms with the utmost care in an effort to uncover and correct any underlying constitutional condition which alone or in combination with reduced coronary flow might precipitate attacks.



# THE JOURNAL

OF THE

## *Michigan State Medical Society*

### PUBLICATION COMMITTEE

A. S. BRUNK, M.D., Chairman.....Detroit  
 HOWARD H. CUMMINGS, M.D.....Ann Arbor  
 B. H. VAN LEUVEN, M.D.....Petoskey

### Editor

J. H. DEMPSTER, M.A., M.D.  
 5761 Stanton Avenue, Detroit, Michigan

### Medical Secretary

C. T. EKELUND, M.D.  
 35 W. Huron Street, Pontiac, Michigan

### Business Manager

Wm. J. BURNS, LL.B.  
 2642 University Avenue, St. Paul, Minnesota  
 or  
 2020 Olds Tower Building, Lansing, Michigan

NOVEMBER, 1935

*"Every man owes some of his time to the up-building of the profession to which he belongs."*

—THEODORE ROOSEVELT.

## EDITORIAL

### GROUP BUDGETING FOR HOSPITAL CARE

Dr. Rufus Rorem addressed the Metropolitan Health Council of Detroit and Wayne County on September twentieth on the subject of group budgeting for hospital care. The smallest sized group, he explained, that was necessary to put the plan into operation was ten. There was no upper limit. The unemployed or those without steady employment were not eligible for hospital insurance. The average cost was approximately six dollars a year per person and this entitled the patient or person to twenty-one days hospital care in any one year, as requested by the attending physician. The cost of hospitalization is paid the hospital by the insurance organization, which is non-profit.

Group hospital budgeting, it was explained, was a matter in which several hospitals might join; its use was limited if confined to one hospital. The patient must select a doctor on the staff of some one of the hospitals entering into the budgeting plan. If his physician were not on the staff of any of the hospitals participating, the patient must either employ some staff physician or forego the advantages of hospital insurance.

The group budgeting idea is not new; it

has been in operation in a number of cities, among them, New York, Cleveland, New Orleans, St. Paul, Los Angeles, Akron, Louisville. The small cost of the insurance, from two to three cents a day, appears to render the scheme popular. It is estimated that over 250,000 persons have already accepted it. It is certainly a boon to the worker of limited income since it takes care of what would be otherwise the major item in a serious illness. To the doctor it is also attractive since the possibilities of collecting his professional fee are much brighter. The physician, however, who happens not to have hospital connection is simply out of luck, inasmuch as the fact of having his hospital bills liquidated by the insurance organization will surely induce the patient to employ a physician eligible under the plan.

In the event of an epidemic or some circumstance in which large numbers of insured persons would require hospitalization, the hospitals might be at a disadvantage.

Some view the group budgeting plan for hospital care as the entering wedge of socialized medicine or at least the precursor of general health insurance. As it is, the term "hospital care" is not easy to define. Does it mean the provision of a comfortable room with meals and efficient nursing, or does it include also all laboratory service?

There are too many details to be considered to mention them within the compass of an editorial. There are advantages and disadvantages, a fact that demands careful study and consideration, before the medical profession should either endorse or condemn.

### GETTING ALONG BY DEGREES

Dr. Andrew P. Biddle, Detroit dermatologist, possesses a personality that endears him to all whose good fortune it is to know him. He is public spirited to a degree and has always manifested a willingness to advance the interests of his profession. He was our first predecessor as editor of this JOURNAL. We have strived to live up to the editorial example he set during those early years of the century. Dr. Biddle took his first degree, M.D., in 1886. His professional work and his untiring service as teacher, as consultant, and as member of various medical groups and societies, including a lengthy service as a member of the Detroit Board of Education and as a mem-

ber of the Detroit library commission, were recognized by Wayne University in 1929, when he was awarded the honorary degree of Doctor of Science.



ANDREW P. BIDDLE, M.D.

Dr. Biddle's recent acquisition is the honorary degree of Master of Arts conferred by the University of Michigan at the annual medical commencement, September third.

Quoting from the citation on conferring the degree:

"Andrew Porter Biddle, a graduate of the Detroit College of Medicine in the class of 1886, whose attainments have won for him the respect and admiration of colleagues and laymen alike. In his long association with the leading hospitals of Detroit, he has established an enviable reputation as a skillful diagnostician and physician in the field of dermatology. He has been active in advancing the ideals of his profession and has repeatedly been elected to the presidency of the many state and national societies of which he is an honored member. His interests extend beyond the boundaries of his specialty to include varied forms of social service, notably his effective participation in the work of the Library Commission and the Board of Education of his city. A recital of the many ways in which he has labored to promote the study of medicine and to inspire its practitioners with his own unflinching faith and sincerity can convey only an adequate idea of his influence and achievements. Nor is such a recital necessary in an assembly where his name is known. He is not only skilled in the ways of healing, but is also wise and helpful in problems of social welfare. He exemplifies in his career the force exerted by character and personality. In recognition, therefore, of his contribution to the betterment of mankind, I now present to you Andrew Porter Biddle for the Degree of Master of Arts."

But this is not all. The Michigan State Medical Society has established as an annual event the Andrew P. Biddle oration,

which was first given in his honor at the annual meeting at Sault Ste. Marie by Dr. S. Marx White, Professor of Medicine, University of Minnesota, on the Status of the Hypertension Problem.

Congratulations, Dr. Biddle.

## PRIVATE INSTITUTIONS FARE BETTER THAN PUBLIC IN DEPRESSION

We have discussed editorially the contention by some writers that state or socialized medicine would insure every doctor a comfortable livelihood as well as every sick person adequate medical care, and have registered a negative opinion. It is refreshing to feel that one is in good company. An editorial in the *New York Medical Week*, the official organ of the medical society of the county of New York, in a recent number ran as follows:

"The doctor, like the business man, works best when he is free to concentrate on his duties without worrying lest the government deprive him of his professional independence and future prospects. Like industry, medicine would profit by a 'breathing spell' in which the fear of bureaucratic control of practice were allayed."

The *New York Times* (Sunday edition, September 29, 1935) comments on the editorial:

"The editorial meets the argument that social insurance would provide a bulwark against economic depression with the assertion that 'it is precisely in such periods that public institutions weaken.' It compares the efficiency of public and private schools in years of financial stress, as a case in point, and concludes that 'on the whole, in spite of their dependence on tuition fees and contributions, private schools have been better able to adhere to their standards than public ones.'"

"Carrying forward the same analogy, the editorial says that the lot of public school teachers in the depression does not 'presage any great security, to say nothing of affluence, for physicians under compulsory health insurance.'"

"'Thousands of teachers,' it declares, 'are unable to secure appointments, and the lucky ones who have jobs have had their salaries cut and their work almost doubled.'"

State or socialized medicine would employ the number of doctors required to do the work under organized arrangement. The remainder would have the privilege of making out the best they could after the cream of medical practice had been taken away from them. "Better bear the ills we



have than fly to others that we know not of."

## THE OWNERSHIP OF X-RAY FILMS

We have discussed the subject of the ownership of x-ray films\* following a circuit court decision by the Ingham County Circuit Court to the effect that x-ray films are the property of the hospital or private x-ray laboratory where the examination was made. Prior to this decision a similar decision was made by a Genesee circuit court regarding the ownership of x-ray films in connection with the Hurley Hospital of Flint. At the time we noted that there had been no previous record of a Supreme Court decision anywhere on the subject.

A recent circuit court verdict was appealed to the supreme court of Michigan and a decision handed down in which the verdict of the circuit court was sustained.

A Michigan physician brought suit against a street paving company to recover his fee for the care of an injured workman under the Workingman's Compensation Law. The defendant claimed that the plaintiff (the doctor) had failed to make frequent reports to the company of the patient's physical condition and had refused to turn over to them the x-ray films he had made. The supreme court claims that there was no merit in either of the defendant's alleged defenses. Regarding the ownership of the x-ray films in the case the Supreme Court continues:

"Further, plaintiff was fully justified in refusing to surrender possession of the x-ray negatives. In the absence of agreement to the contrary, such negatives are the property of the physician or surgeon who has made them incident to treating a patient. It is a matter of common knowledge that x-ray negatives are practically meaningless to the ordinary layman. But their retention by the physician or surgeon constitutes an important part of his clinical record in the particular case, and in the aggregate these negatives may embody and preserve much of value incident to a physician's or surgeon's experience. They are as much a part of the history of the case as any other case record made by a physician or surgeon. In a sense they differ little if at all from microscopic slides of tissue made in the course of diagnosis or treating a patient, but it would hardly be claimed that such slides were the property of the patient. Also in the event of a malpractice suit against a physician or surgeon, the x-ray negatives which he has caused to be taken and preserved incident to treating the patient might often constitute the unimpeachable evidence which would fully justify the treatment of which the patient was complaining. In the absence of an

agreement to the contrary there is every good reason for holding that x-rays are the property of the physician or surgeon rather than of the patient or party who employed such physician or surgeon, notwithstanding the cost of taking the x-rays was charged to the patient or to the one who engaged the physician or surgeon as a part of the professional service rendered. Careful research indicates that the question here present is one of first impression."

While on the subject, we should add that indiscriminate handing out of x-ray films should not be encouraged. The practice can do no good and may cause a lot of harm in incompetent hands by misinterpretation. X-ray films are as unintelligible to the average layman as the shorthand notes of the roentgenologist's secretary. It would be a good thing if the habit of referring to radiographs as "pictures" might be abolished. The radiograph is not a "picture" in the accepted sense of the term, and the sooner this is realized, the better. The great majority of physicians realize this and are satisfied with the roentgenologist's interpretation. X-ray films are part of his original records of the case and should, therefore, remain continuously in his possession until no longer of use to anyone.

## CANCER CURES\*

So numerous and so disappointing have been the cancer cures of the past that any proposed method or cure is not received with any degree of enthusiasm on the part of the medical profession. Their attitude is one of honest skepticism. The natural sequence of appearance for discoveries is first, the lay press, then the medical journal, and finally, the textbook. Priority of publication is not so essential a feature of a medical journal as it is of the daily newspaper. It is of greater consequence to readers of scientific publications that accounts be accurate and of intrinsic value. Premature publication of medical discoveries has anything but a salutary effect upon sufferers from disease by raising hopes that are too often turned to despair.

The city of Kingston, from which the most recent discovery of a method of treating cancer comes, is located in eastern Ontario at the point where the waters of Lake Ontario enter the St. Lawrence River. The limestone city, as it is called from its sub-

\*Dr. Connell's original presentation of his work appeared in the October number of the *Canadian Medical Association Journal* under the heading, *The Study and Treatment of Cancer by Proteolytic Enzymes: A Preliminary Report*. In this contribution, the author presents thirty cases.

\*Editorial, *Journal of the Michigan State Medical Society*, Vol. 31, 1931, page 341.

stantial stone buildings, both public and private, has been the home of Queen's University for nearly one hundred years. The university is noted for its scholarly tradition in much the same way as the older universi-

"To sum up. Cases of cancer, properly diagnosed by microscopic examination, with adequate case-histories, are being treated with a solution which has solvent properties on cancer cells, and are being followed up. A number of competent men associated with Queen's University are collaborating with Dr. Connell, so that we can feel assured that the prob-



HENRY COOK, M.D.  
*Chairman of Council  
Michigan State Medical Society*



T. F. HEAVENRICH, M.D.  
*Vice Chairman of Council, Michigan  
State Medical Society*

ties of the United States. During the past summer, the work of Dr. Hendry C. Connell, which had covered approximately four years, and had come to be considered "news," accordingly received front page notice in the lay press.

"The idea occurred to Dr. Connell," according to the *Canadian Medical Association Journal*, "that he might . . . be able to produce an enzyme or such-like agent which would act only on cancer cells. In this quest he has succeeded."

"Dr. Connell gives the case histories of thirty patients treated (with one exception) by his method . . . In justice to Dr. Connell it should be stated that his cases were of the desperate kind, those regarded as beyond the help of surgery or radiation. Consequently, his apparently successful results should be given a higher rating than they might seem to deserve at first sight. Even with a cure which could properly be termed 'specific,' no doubt many cases of severity and in the late stages would not respond.

"The degree of amelioration which he has obtained is distinctly encouraging and clearly demands that his work be continued. Dr. Connell does not make extravagant claims for his treatment.

"While the mode of preparation of Dr. Connell's cancer 'ensol' has been divulged, we are glad to learn that steps have been taken to prevent the exploitation of the public and the profession by unauthorized interests. Certainly, the time has not come when this form of treatment should be generally adopted. Much more work must be done before this would be justified.

lem is being attacked from various sides in a thoroughly scientific manner. We bespeak for Dr. Connell all the assistance that the profession can give, and congratulate him on having developed a new line of attack on the dread disease, cancer, which has distinct promise. We shall await further developments with interest."

Such is the status of Dr. Connell's discovery according to our most authentic source of information. Any further developments will be recorded if and when warranted.

## FUNCTION OF HEALTH ORGANIZATIONS\*

The public health function has been defined as "The art and science of preventing disease, prolonging life and promoting physical and mental efficiency through organized community effort." This is concise and to the point. Among the community obligations may be mentioned sanitation, which in turn includes a safe and adequate food supply, cleanliness of environment, protection of human life against accident, the control of communicable disease, public health labo-

\*Public Health Administration in the United States. W. G. Smillie, A.B., M.D., Dr.P.H. The Macmillan Company.



ratory service, vital statistics, public health education, and research in disease prevention. All these functions are capable of broad interpretation. It will be seen also that they involve duties which cannot be accomplished by any one trained in only one profession such as sanitary engineering or medicine. This is particularly true in large cities where public health work assumes its greatest complexity. In order to achieve the best results, the health officer must be a specialist in some one department, with a broad workable knowledge of the others. In fact, his special equipment must be supplemented by persons specially trained in other departments. A properly organized health department would require a personnel medically trained, also a trained sanitary engineer, and likewise an efficient laboratory service and equipment, not to mention persons well trained in sociology and public health law.

The demarcation between public and private health has not been clearly defined; or at least, we might put it this way: The health officer may feel he has a clear idea of his scope and limitations; the practitioner of medicine may feel just as clear about his function in the community. The two, however, have been at variance at times in a few things which hardly constitute a "no man's land." The public health function has gradually taken over what was at one time avowedly the work of the general practitioner—for instance, the care of most communicable diseases. There has not been much friction here, however, since many practitioners have not shown any great desire to treat tuberculosis, smallpox and other acute infections. According to Smillie, "The consensus of opinion of foresighted public health leaders is that the health department should not assume permanently the clinical functions that rightly belong to and are best carried out by well trained private practitioners of medicine." And again, while advocating suitable clinics for persons too poor to meet the cost of essential preventive services, he goes on to declare that, "We must recognize that measures for the prevention of disease and promotion of the health of the individual are essentially the function of the practitioner of medicine, and health departments should do everything in their power to develop a satisfactory system whereby this ideal condition may be achieved."

The author, referring particularly to the work in Detroit, writes as follows:

"The health department has used its public health nurses and other personnel in an intensive effort to persuade parents to have their children immunized against diphtheria. The immunizations have been



C. T. EKELUND, M.D.  
Medical Secretary, Michigan  
State Medical Society

done by practicing physicians. In case the parents could not afford to pay for the work, each physician reported the matter to the health department and was paid a modest sum by the health department for each completed immunization that he gave to an indigent child. *It is difficult for the health department to justify this method to the governing body, since the procedure is so expensive* (italics ours). The physicians receive five to ten times more money for the individual immunizations than it would have cost the health department to have done the same work by mass methods.

"It must be generally conceded as a fundamental principle that the health department should do as little clinical work as possible, compatible with protection of the general health of the community. The health department has undertaken clinical activities because of the obvious immediate necessity. It must allocate these activities to practicing physicians as fast as the medical profession will accept responsibility for them. Whenever mass immunization will prevent outbreaks of disease, however, the health department is under obligation to carry out immunization at public cost by the most effective and least expensive means. The health department considers the community as a unit and not the individual. Mass immunization is done to protect the community. Incidentally, individuals may be safeguarded, but the primary purpose is community protection."\*

\*Loc. cit.

The expense of immunizing children of indigents is easily justified by the fact that the physician is a citizen and taxpayer, a supporter of the health department. It is his right to be remunerated where the patient is unable to do so. By paying the physician for his work of immunization, it is recognized as a community obligation, rather than the obligation of the private practitioner. However, if Dr. Smillie's book embodies the opinion of leaders in public health organizations, there should be a substantial agreement between the health organization and the physician in private practice.

### HOUSE OF DELEGATES DELIBERATIONS

This number of the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY contains a verbatim report of the deliberations of the house of delegates at the 70th annual meeting at the "Soo." It has been the custom for a number of years to have a stenographic report of the house of Delegates meeting, as a result of which the November JOURNAL is always somewhat bulky. An index is provided this year to facilitate reference for those not inclined to wade through the entire volume of transactions.

The report of the Cancer Survey which has been made for Michigan was accepted at the annual meeting of the State Medical Society. This is a very complete account of the cancer situation in this state as well as of facilities for the control and treatment of cancer. This report appears in monthly installments in the JOURNAL beginning with the present month.

With the October number, we virtually begin a new JOURNAL year—not in reality, since the volumes number from January to December. However, with the October number containing the president's address and the semi-annual reports of committees, the November number with a complete account of the proceedings of the House of Delegates and the papers read at the annual meeting of the Society and with the resuming of meetings by county societies, we are at least making a fresh start.

We would urge that each member preserve his JOURNALS for future reference, even if not collected into a bound volume. The activities of the State Medical Society will be reported fully from month to month so that everyone may be fully informed in regard to the activities of the society.

### WILLIAM J. BURNS

Mr. William J. Burns of Detroit, for the past five years executive secretary of the Wayne County Medical Society, has been appointed executive secretary of the Michigan State Medical Society, with offices at the state capitol. Dr. Ekelund of Pontiac



WILLIAM J. BURNS, LL.B.  
*Newly appointed Executive Secretary,  
Michigan State Medical Society*

at the same time entered his official duties as medical secretary, a part-time function.

Mr. Burns was born in Toledo in 1896. After schooling in Toledo, Prairie du Chien, Wisconsin, and in Cincinnati, he entered the law offices of Eugene Rheinfrank of Toledo, a corporation lawyer. Mr. Burns, however, was attracted to medicine, not to study it with a view to adding another member to a crowded profession, but to fill a place in the executive department of the Toledo Academy of Medicine, a position he held with satisfaction for four years before coming to Detroit. He was instrumental in organizing the first conference of full time medical executive secretaries on the occasion of the meeting of the American Medical Association in Detroit in 1930. The conference or association represents twenty counties and fourteen state medical societies throughout the United States. Mr. Burns is executive secretary of the American Medical Golfing Association, the national official organization of the American Medical Association fellows who play the ancient and honorable game (membership over 1200). Mr. Burns is an honorary member of the Toledo Academy of Medicine, a member of the Toledo Bar Association, the Detroit Bar Association and the Economic Club of Detroit. He is extremely modest and has therefore constrained us from registering any impressions from a five year intimate association.

"Ne'er of the living can the living judge;  
Too blind the affection or too fresh the grudge."

Perhaps this bit of philosophy represents Mr. Burns' attitude so we must therefore satisfy our editorial inclination by simply presenting the mileposts of his dynamic career.



## MEDICO - LEGAL DEPARTMENT

### STERILIZATION OF MENTAL DEFECTIVES IN THE STATE OF MICHIGAN

By *Mr. Clayton C. Purdy*,† Detroit

The people of the State of Michigan have, through their legislature, caused to be enacted a statute providing for the sterilization of mentally defective persons within this state. This statute, known as Act 281 of the Public Acts of 1929 and appearing in the Michigan Compiled Laws of 1929 as Section 6645 through Section 6656, is entitled an Act to prevent the procreation of feeble-minded, insane and epileptic persons, moral degenerates and sexual perverts, to authorize and provide for the sterilization of such persons and payment of the expenses thereof.

Section 1 of this Act sets forth the policy of the State to be the prevention of procreation and increase in number of such persons as are referred to in the title, who are likely to become a menace to society or wards of the State. The last sentence of this particular section indicates clearly the seriousness of this problem and the legislative intent in drafting the act. It is as follows, "The provisions of this act are to be liberally construed to accomplish this purpose."

Since the earliest moment at which this problem was looked at in a broad and open-minded way, all attempts at its solution have been subject to attack. These attacks have taken many and varied forms but for the purposes of this article we can only be concerned with those which have been made in the courts.

Act 34 of the Public Acts of Michigan, 1913, was an early attempt of the Michigan legislature to solve or at least partially solve this problem. This Act had for its purpose the sterilization of mentally defective persons confined in state institutions. The constitutionality of this act was made the subject of attack in the case of *Haynes v. Lapeer Circuit Judge*, 201 Michigan 138. It was here urged that the act was unconstitutional and void as class legislation. The Su-

preme Court agreed with this contention and held the act unconstitutional as class legislation in arbitrarily selecting only those confined to state institutions, because the principle of selection bore no reasonable relation to the proposed scheme for the artificial betterment of society and society at large would be just as injuriously affected by the procreation of such persons who are not confined in such institutions as it would be by the procreation of those who are so confined. Particularly as the former vastly outnumber the latter.

The legislature in 1923, undoubtedly having in mind the expression of the Supreme Court in the foregoing case, corrected this difficulty by Act 285 of the Public Acts for that year. This Act did not limit its scope to those mentally defective persons confined to institutions but rather was made to include all mental defectives whether confined or not confined. Its title, "An act to authorize the sterilization of mentally defective persons," indicates the legislative method of overcoming the objection raised by the Supreme Court to the earlier Act.

This, however, was not the only difficulty which was encountered. In the case of *Smith v. Wayne Probate Judge*, 231 Michigan 409, a petition was made under the above Act in the Probate Court for Wayne County for the sterilization of Willie Smith, a feeble-minded person. The petition was granted and an appeal was then taken to the Supreme Court, where the constitutionality of this Act was attacked. The question presented was whether the Act was a valid exercise of the police power within the limitations of the constitution. It was strenuously urged that the Act was an unreasonable, arbitrary and unnecessary interference with the fundamental rights and privileges of individuals and that its effect upon the person or upon the public welfare is experimental. It was also claimed that the statute violated that part of the constitution which provides that cruel or unusual punishment shall not be inflicted. Many other objections, including "due process of law" and "class legislation," on which the 1913 act had foundered were likewise urged.

The Supreme Court, however, found the Act to be constitutional and a valid exercise of the police power with the exception of one section, and that it was justified by the findings of biological science that feeble-mindedness is hereditary. It also, in the

†Mr. Purdy is a member of the law firm of Douglas, Barbour, Desenberg and Purdy, Detroit attorneys for the Board of Medical Defense, Michigan State Medical Society.

course of its opinion, held that the constitutional inhibition against cruel and unusual punishments has reference only to punishments inflicted after convictions of crimes and hence has no application here as this Act is nonpunitive. The methods provided by the Act for sterilization, requiring treatment by x-rays or the operation of vasectomy on males or salpingectomy on females, or other treatments as may be least dangerous to life were likewise held not to be unreasonable, cruel or oppressive. The other objections raised were resolved in favor of the Act's constitutionality and, with the exception above referred to, the Act stood as part of the law of our state.

The section of this Act which was found to be unconstitutional provided for the sterilization of those feeble-minded persons who are unable to support any children they might have and whose children would probably become public charges. This was found to be class legislation and not germane to the object of the Act. However, as the rest of the Act provided a complete classification in itself, its constitutionality was not affected by the invalidity of the section last referred to. It is interesting to note in this connection that the limitation of this Act to feeble-minded persons, excluding its application to the insane, was held not to deny equal protection of the laws to the class upon which it operated. The order of sterilization of the Probate Court was reversed in this case, only for the reason, however, that the statutory procedure had not been followed.

The Act in effect at the present time and referred to at the beginning of this article is the culmination of our legislature's experience to date. It has superseded the 1923 statute and makes possible the intelligent control of this serious problem. Provision is made for application to the Probate court for an order directing the treatment prescribed by certain members of the defective's family or by certain duly designated officers, and in case the defective is confined in a state institution by certain officers of that institution, when they shall be of the opinion that any inmate or person under custodial care of such institution is a mentally defective person who would be likely to procreate children unless closely confined or rendered incapable of procreation, that such children would have a tendency to mental defectiveness and that there is no

probability that the condition of said defective person will improve and that it is for the best interest of such person and of society that such mentally defective person should be sexually sterilized.

The defective's interest in the matter is carefully safeguarded by the procedure prescribed by the statute before such an order can be granted. The Supreme Court has held that the requirements of procedure in proceedings to sterilize mental defectives are jurisdictional and no valid order can be made without substantial compliance therewith. Physicians appointed by the court to examine the mental defective sought to be sterilized must appear in court at the hearing and submit to examination by the court, prosecuting attorney and guardian or other interested persons, and the requirement that the court take full evidence in writing at the hearing as to the mental and physical condition of the alleged defective and the history of the case is mandatory. Either the court or the defective or his representatives can require a jury trial and the defective shall have the right to be represented by counsel and be present at the hearing in person unless it shall appear to the court by the certificates of two reputable physicians that his condition is such as to warrant this improper and unsafe. Provision is also made for sterilization of mental defectives without court procedure when consent is given in the manner set out in the statute.

To safeguard the medical profession in the performance of an operation of this nature, Section 10 of this Act sets forth "that no surgeon performing an operation or providing treatment under the provisions of this act shall be held liable either criminally or civilly on account thereof, except only in the case of negligence in the performance of such operation."

Thus it can readily be seen that Michigan has taken long strides forward in coping with this problem, and that the means have been provided by which the people of this State may sometime in the future be relieved or in a measure relieved of the tremendous burden the care of this all too large class of people has imposed upon them.

---

In order to discover truth, we must be truthful ourselves, and must welcome those who point out our errors as heartily as those who approve and confirm our discoveries.—Max Muller.



## A MOMENT OF MEDICAL HISTORY

WILFRID T. DEMPSTER, D.Sc.  
Ann Arbor, Michigan

### PREVENTIVE INOCULATION

Concerning the plague of Athens, Thucydides wrote that people who had taken the disease and had recovered from it were able to nurse their stricken fellows without fear, since they were never fatally seized by the plague. This belief in the unlikelihood of reinfection by certain diseases was common among Oriental and African peoples as well as among those of the Mediterranean region. As far as the plague was concerned, the concept of immunity following recovery from disease, however, was little more than a consolation for afflicted patients until recent times. The nature of contagion was then unknown.

In several respects, however, practical attempts were made among primitive people to induce a particular morbid state with a view to obtaining subsequent immunity. Early European travelers found that in regions of Africa and the East where poisonous snakes and scorpions abound, the natives prepared a paste of venom and vegetable products for rubbing into incisions made on their skin. One Portuguese, Serpa Pinto, wrote that shortly after receiving this treatment from natives of the east coast of Africa, he was stung by a scorpion without ill effect. Some years later, however, a second scorpion sting produced the usual consequences, the immunity apparently having disappeared. Another type of prophylactic inoculation was found among the Moors and Pouls of Senegambia where attempts were made to protect cattle from the epizootic pleuropneumonia. A dagger was plunged into the lung of an animal which had died from the disease and the matter which adhered to the instrument was inoculated into other cattle by a subcutaneous supranasal incision.

Finally, and most important for our discussion since it led eventually to scientific studies of inoculation, there arose a practice, probably of Hindu origin, of inoculating for smallpox. The practice was known in China, at least as early as the eleventh century. A pad was saturated with the contents of a fresh smallpox vesicle and placed

into the nostril of the subject to be inoculated. According to custom, boys were inoculated in the left nostril and girls in the right. Sometimes the material from a smallpox pustule was dried and made into a powder which was rubbed or blown into the nostrils.

Among the Persians, the scabs from variolus patients were powdered and rubbed into scratches on the skin to produce smallpox in uninfected persons with the idea of eventually developing immunity. Early reports indicated that Mohammedan tribes of Tripolis, Tunis and the Kabyl Mountains indulged in this practice of variolation. The Ashantis ritualistically inoculated in seven places on the arms and legs. In India among the Brahmins, variolation was developed as a phase of the religious rites associated with a smallpox deity. In western Asia, the Circassians and Georgians made punctures for the inoculation of variola to protect the beauty of their women from the disfiguring scars of naturally acquired smallpox. Even today, the practice is said to continue among certain tribes in Africa, particularly among the Bari, Somali and Baganda. The instances of the use of smallpox inoculation are so numerous and widespread that it is only natural to infer that the intelligent production of the disease for the purpose of immunizing against subsequent and more severe attacks of smallpox was an old custom. Variolation ordinarily produced a milder form of disease than natural infection, since it allowed some choice as to the site and method of infection.

Though a passage in a Salernitan poem (*Flos Medicinæ Scholæ Salerni*) suggests an acquaintance with variolation or smallpox inoculation, the practice was virtually unknown in Europe until the eighteenth century. At this time, certain European physicians in Constantinople learned of inoculation, which was being introduced from Asia Minor. In particular, Timoni, a Greek physician in Constantinople, studied the method of variola inoculation in 1713. His method and recommendations were soon introduced into England through a communication to the Royal Society and, more enthusiastically, by the letters of Lady Mary Wortley Montague, wife of the British ambassador to the Porte, who had had her children inoculated and was eager to see the method used in England. The exiled King Charles XII of Sweden likewise sent

recommendations to his people from Bessabia. Within five years after the first announcement of inoculation in Europe, publications had appeared in England, France and Italy and, more important, variolation had actually been practiced. The novelty of the method, however, soon passed, its efficacy became controversial and it was not till the middle of the century that serious study was really made.

During a smallpox epidemic in Charleston, in the American colonies, Kirkpatrick and Mowbray made extensive inoculations. Their records were published in London in 1743 and the failures of earlier decades were soon forgotten. Kirkpatrick later moved to England, where he introduced elaborate hygienic and medical preparation for inoculation and raised variolation to the status of a surgical operation with a prolonged after-treatment. A two month period for the whole procedure was not unusual. Kirkpatrick thus developed a popular and lucrative method which others exploited for the next twenty years. Though little scientific work was done, serious attempts to simplify the technic were made by Kirkpatrick, Mead, Dimsdale, Watson, the Suttons and others. Hygienic and dietetic preliminary treatment came to supplant the elaborate system of frequent bleedings and violent purgings of the previous method.

Angelo Gatti, a professor at Pisa, during the 1760's did more than other inoculators in the simplification of technic and in the attempts to find a rational explanation for the phenomenon of variolation. He believed that the virus was a specific material which reproduced itself following inoculation and emphasized that virus should be taken only from subjects who were, apart from smallpox, otherwise in good health. He used cold applications after inoculating and stressed the desirability of attenuating the variolous matter for inoculation, but knew of no such method. Gatti's study led to a great increase in variolation in France, probably the slowest country in Europe to take up the practice. He was in large part responsible for the revolution in method which led to simplified procedures, segregation of inoculated patients and the early inoculation of infants. This was practically the situation during the period of Jenner's first study on vaccination.

Variolation under favorable conditions, when applied to children, who were better subjects than adults, and with adequate care

was undoubtedly a real prophylactic measure. The statistical records showed evidence that variolation was an actual protection against reinfection by smallpox and that if reinfection occurred, the mortality was low. Nevertheless, the method had disadvantages which could not be ignored. The operative procedure was dreaded even in its simplified form because of the numerous unsightly pustules produced over the body. Fatalities too were not unknown. There were dangers of introducing in the inoculation not only the smallpox virus but also the causative agents of syphilis and other diseases. Finally, the inoculated patient was a potential source of infection for others through clothing, bedding and personal contact.

In several places in Europe during the eighteenth century, particularly Holland, France and England, a tradition arose in the dairy country among the untutored country folk that those who had been infected, through milking and tending cattle, with a mild eruptive disease known as cowpox would be free from subsequent infection by smallpox. It seems probable that this local belief arose as an outgrowth of discussions on the practice of variolation coupled with observations on the casual resemblance between the pustules of the two diseases. Medical men, if they knew of this tradition at all, considered it the imagining of ignorant country people.

Edward Jenner, however, after a prolonged study of cases of cowpox infection in dairy maids and cattle tenders of Gloucestershire, England, made experimental inoculations with cowpox virus. He showed that cowpox inoculation was a simple process requiring no preparation of the patient, that it caused only a slight malaise (never fatal), that the effects lasted but a week and that the danger of infecting other persons was negligible. He showed also that one person could be inoculated from lymph taken from a previously inoculated person and that the process could be continued for at least five generations of inoculations. Jenner was convinced that "what renders the cowpox virus so extremely singular is that the person who has been thus affected is forever after secured from the infection of the smallpox; neither the exposure to the variolous effluvia nor the insertion of matter into the skin, producing this distemper."

Jenner's first publication appeared in 1798, and in it vaccination was suggested as a method to replace variolation. The inocula-



tion was called vaccination from *variola vaccinae*, the scientific name for cowpox. The study was pursued further within a few months by Pearson and by Woodville in London. Through these men, who not only inoculated hundreds of people with cowpox, but were most active in disseminating the idea, the number of vaccinations increased so rapidly that objections were soon satisfied by a mass of statistics favorable to cowpox inoculation. Variolation had set a standard which was easily surpassed by vaccination. In England in 1799 and later in America and other countries, organizations were established for the preparation and distribution of vaccine. Millions of people were vaccinated.

The chief mistake of Jenner and other vaccinationists was their belief in the permanence of the immunity conferred. By 1825, smallpox became nearly as serious as it had been formerly. Vaccination was obviously not permanent and infection was spread by the continued practice of variolation. As a consequence, laws were passed to prevent variolation; first in Prussia in 1835, then in England in 1840. Simultaneously, methods of compulsory vaccination were instituted.

During the nineteenth century, scientific studies on inoculation were not as productive of results as were practical methods of exterminating smallpox. Attempts were made to find if cowpox would prevent such diseases as hydrophobia and distemper, but these were sterile. Experiments were also made in inoculating cows with smallpox virus, but these results gave rise to controversies as to whether cowpox and smallpox were separate diseases or modified forms of the same disease, and it was not until the latter decades of the nineteenth century that the cowpox virus was recognized as an attenuated type of smallpox.

As to other types of inoculation, probably the most important was the inoculation for pleuropneumonia in cattle advocated by Willems in 1852. In this, infected matter was injected into the circulation or subcutaneously with such satisfactory results that the method was widely used in the cattle country of Europe, South Africa and Australia. Another experiment of interest dates from 1854 and 1855. Doctor William L. de Humboldt of New Orleans conceived that certain snake venoms, which gave rise to symptoms similar to those of yellow fever, conveyed immunity to yellow fever. An ex-

tensive experiment on the Cuban military forces proved inconclusive and the method was forgotten. Another method doomed to oblivion was the inoculation of condensed moisture from rooms in which yellow fever patients slept.

Following the demonstration of the bacterial nature of disease by Pasteur and Koch, a new impetus was given scientific studies. Increased attention was devoted to active immunization against infective disease. Pasteur did the pioneer work in this field. He recognized that chickens upon recovering from fowl cholera did not easily contract the disease a second time. After studying the relative pathogenicity of organisms of fowl cholera by injection into rabbits, fowls and guinea pigs, he found, after a vacation from the laboratory, that his cultures had lost their virulence. After a period of several months, it was confirmed that cultures lost virulence on standing. Pasteur also believed that broth cultures of organisms which were exposed to air showed attenuation in contrast to cultures which were placed in sealed tubes. The attenuated living culture when injected into an experimental animal, instead of producing disease symptoms, was without serious effect. This inoculation, however, protected against subsequent inoculation by organisms of full virulence. Thus, in 1880, Pasteur succeeded in producing in the laboratory an attenuated and harmless immunizing agent comparable to that which Jenner found occurring naturally in cattle.

During the next six years, Pasteur and his students, Chamberland, Roux and Thuillier, turned their attention to attenuating the causative agents of anthrax, swine erysipelas and rabies. Their work which was published in about thirty articles met with success. Anthrax could be attenuated by a few moments heating of cultures to 55° C. or better by growing cultures for a period at a temperature which was a degree or two below the lethal point. Another method was the growing of cultures in the presence of such antiseptics as carbolic acid and potassium dichromate. Anthrax organisms attenuated by these methods or by cultivation under pressure were innocuous, yet they gave striking evidence of producing immunity to virulent anthrax.

Swine erysipelas organisms, it was found, were best attenuated by injection into rabbits. After a period in the blood of rabbits,

the organisms were rendered harmless to hogs. Passage through pigeons, in contrast, augmented the natural virulence considerably. The attenuated material from rabbits proved successful for inoculating against the disease.

The same method of passing a virus from one animal to another was of some use in attenuating the virus of rabies. After inoculation into monkeys, the virus became weaker. Still another method of attenuation, however, proved to be the solution of the practical problem of rabies inoculation. In the studies which led to the preparation of antirabic sera for use on human beings, a virus of maximum virulence was inoculated into the brain and spinal cord of a rabbit. The cord was removed and allowed to dry; the longer the period of desiccation, the more attenuated the virus. Such attenuated virus from dried spinal cords, until very recently, was the sole means of protecting human beings from rabies infection.

The Pasteurian method of attenuation of virulent organisms and viruses was thus dependent on such methods as animal inoculation, desiccation, treatment with antiseptics, culturing at a high, non-lethal temperature, prolonged growth in culture media and short heat treatments. Other methods likewise suggested were the growing of cultures under pressure and the use of thymus bouillon for attenuating organisms.

In an alternate method of inoculation, injections into specific regions of the body were made of sublethal amounts of fully virulent organisms. This method was tried particularly in cholera (Ferran, 1885, and Haffkine, 1892), tuberculosis (Webb, Williams and Barber, 1909), plague (Strong, 1908) and typhoid fever (Metchnikoff and Besredka, 1911). Methods of inoculating living organs, though often more successful than other means of immunizing, incurred certain risks. Virulence may vary with different culture samples and there is often danger of inoculated animals infecting others. Though the method continues in veterinary practice along with such procedures of infection control as slaughter and isolation of infected animals, it has, except for smallpox inoculation and rabies treatment, been supplanted, where humans are concerned, by the use of killed cultures or extracts from cultures.

In 1886, D. E. Salmon and Theobald Smith killed organisms of hog cholera by

heat and found that the filtered culture produced an immunity in pigeons against the disease. Somewhat later, preservatives, such as phenol and formalin, were frequently used instead of heat to kill organisms. The adaptation of killed organisms for the production of immunity was a guiding principle in later work on immunity to cholera, plague, typhoid, rabies, foot and mouth disease, pneumonia and other conditions.

An important advance in immunological work came with studies of tetanus and diphtheria immunity. Behring and Kitasato, in 1890, showed that tetanus and diphtheria organisms formed toxins and that the protective function of the body was called forth in the destruction of these substances. The presence of toxin in the body stimulating the production of antitoxins in the blood was the essence of the immunity reaction in the case of these two diseases. A similar method of protection was associated with snake venom and certain plant poisons. From this time, increasing attention was given to the isolation of the specific antigen substances responsible for immunity reactions.

During the last decade or more of the nineteenth century and in the subsequent period, attempts to explain phenomena led to many experiments *in vitro* on the lysis of organisms, on precipitin and agglutination reaction as well as on the chemical and physical nature of antibodies. Preventive inoculation, accordingly, became only a phase of a much larger field of immunity dealing not only with pathogenic organisms, but with all sorts of phenomena by which the body resists invasion of foreign proteins. Explanations for the phenomenon of preventive inoculation arose and inoculation was still further extended to such other diseases as trachoma, fowl pox, hog cholera, measles and dog distemper. Both prophylactic and therapeutic measures were thus developed to their present state of use.

---

"Criticize opinions and institutions, but do not attack individuals."—Dean Inge.

---

"It is not growing like a tree  
In Bulk, doth make man better be."—Ben Johnson.

---

A clergyman about to board a bus saw that one of the men getting on had had "one over the eight." Turning to the conductor the clergyman said: "Do you allow drunken men on your bus, conductor?" "Well," was the startling reply, "we don't as a rule guv-nor, but just step in quietly."



## DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

### IMPORTANT ANNOUNCEMENT

The Council of the Michigan State Medical Society takes pleasure in announcing the engagement of Mr. William J. Burns as Executive Secretary.

The offices of the Society were moved to 2020 Olds Tower, Lansing, Michigan, on November 1. All communications referring to Advertising, Journal Subscriptions and Society Dues should be sent to Lansing, Michigan. All communications in regard to general Society affairs should be referred to the Secretary, Dr. Clifford T. Ekelund, 906 Riker Building, Pontiac, Michigan.

C. T. EKELEND, *Secretary*.

### YOUR ATTENTION PLEASE!

This issue of the JOURNAL is devoted largely to the proceedings of the House of Delegates. If you would keep in touch with the activities of your Society you must read them carefully. In these proceedings, the House of Delegates has expressed what it assumes to be the attitude of the general profession.

As the retiring Secretary notes in his valedictory, this year will mark the beginning of a new period in the progressing activities of the Michigan State Medical Society. Your Society, commencing this month, proposes to attack its objectives, as they are seen by the House of Delegates, aggressively and efficiently. You will find the minutes informative and interesting. It is your obligation as a loyal member to read them most carefully.

### NEW COMMITTEES

President Penberthy has announced the personnel of his Committees. They will be found in the front section of this issue. Pursuant to instructions from the House of Delegates there have been formed several new Committees for various special purposes. Please note them carefully. They are indicative of the new proposed activities of the Society. The policy of handling important Society matters through Committees has long been followed by this Society.

There can be no question that the policy has resulted both in satisfactory accomplishments and in stimulating interest and loyalty.

### THE MICHIGAN STATE MEDICAL SOCIETY

#### A Retrospect and a Valedictory

When the House of Delegates elected me councilor I had surprisingly little knowledge of the Society's activities, its politics or its policies, and little thought that I should, with pleasure and a considerable degree of satisfaction, serve you over a twelve year period. Repeatedly honored by re-election, I have had the opportunity of serving continuously on the Executive Committee, for six years as chairman of the Council, finally undertaking for a year the arduous duties of Acting Secretary. This service I feel may justify this valedictory, a review of these years and a limited discussion of current problems.

An unusual situation made necessary the election of eight, more than half the total numbers of councilors, at the 1922 annual session. These members were Darling, Bruce, Jackson, Green, Baird, Ricker, Burke and Corbus. Of the holdovers, LeFevre, Jackson, Randall, Stone and Walker remained to guide us and take an active part in the development through the next few years.

I have recently reviewed the official proceedings and the activities of the Society as recorded in the JOURNAL since the beginning of the century, and I comment on the above change of personnel because with this the last thirty-five years drop quite naturally into three periods. In 1902 came the first issue of our JOURNAL, and the leading article was by the president of the Society, Doctor J. H. Carstens, the father of one of our present valued councilors. A stalwart, strong, clear thinking man was he, most appreciative of the value of organized medicine which now, in a National way, is just coming into being. To him and to the group of men of similar ideas and ideals who sur-

rounded him, we are indebted for that solidity of construction which has made it possible for this Society to go on progressively year by year.

A decade or a decade and a half later, and we find a new group of strong men on the stage whose names and accomplishments are familiar to you. To name a few of the more prominent ones, Burr, Sawyer, Peterson, Hume, Tibbals, Dodge, Kiefer, Seeley, Vaughan and our beloved Andrew Biddle. There will be others whose names will occur to you. So came higher standards of practice, legislative safeguards, disease prevention and health education. Sawyer, Burr, Vaughan, Biddle, Harrison and others had a vision of the possibilities of the future. They had ideas as to how progress might be made, and above all they had ideals to which they tenaciously adhered.

This was our heritage as we entered this third period. We came into the picture at a time when the periodical unrest which seems to affect all organizations from time to time, was becoming increasingly evident. The profession, so the JOURNAL indicates, had been having an unpleasant altercation with the University of Michigan and with the State Board of Health. As we look back we realize that although there was, unfortunately, sufficient occasion for irritation, matters had been made much worse by misunderstandings and by maladroit approaches on both sides, which led to an increasing amount of bitterness. On the other hand the Society was ripe for progress.

The House of Delegates had doubled the dues and so made possible the carrying out of an extensive post-graduate program. Later in the year Mr. Harley Smith was employed as assistant to the secretary-editor to do the field work incident to its inauguration. Michigan was one of the earliest states in which a policy of bringing post-graduate education to the home of the physician was established. It was our ambition to give a one, two or three day post-graduate conference in every councilor district in the state each year. Out of this came the conjoint efforts of the Society and the University of Michigan in the establishment of our present post-graduate plan with its regional clinics and its intensive courses. The survey of hospitals, and in particular the analysis with its criticisms of the activities of the University of Michigan Hospital, followed. This excellent survey, which brought about a clos-

er and more agreeable relationship between the Society and the University of Michigan, played an important part in the establishment of the Department of Post Graduate Medicine.

The Joint Committee of Public Health Education initiated by the Society but now in association with other health and educational organizations operating through the Extension Department of the University, became very active. Funds were made available and a period of great activity ensued. "Health Education to All the People of Michigan" was the slogan, and through P. T. A.'s, granges, high schools, and luncheon clubs nearly a quarter of a million people were reached in one year by speakers chosen largely from the profession.

Although I have the authority of Doctor Oliver Wendell Holmes that there are times when it is permissible to indulge in personal comment, I feel that the work done by this group with whom I have been associated in this the third period should speak for itself. We have endeavored to make additions to the edifice of sound medicine. We have, I hope, helped to add to the equipment and ideals of the profession. If we have not left something of permanent value then much work has gone for naught.

Recent action by the House of Delegates indicates that we are about to enter a fourth period and suggests some further discussion of the period just past. This last period is easily divided into two parts: the first a period of great prosperity. The doctors had recovered their position after the war; money was plentiful and the chief complaint was of excessive business with its demands on strength, the lack of hospital beds, hospital equipment and nurses. There were those who noted that, in spite of the prosperity, there was a great increase in free clinic work occasioned not so much by necessity as by the stimulation of Foundations and hospitals, of individuals philanthropically inclined, willing to share the philanthropy but not the credit for it with the doctor working in the clinic. This was disturbing but the situation was not taken very seriously by the rank and file of the profession. Indeed, everybody was pretty well satisfied, and then came the crash.

That this Society could come through the period of depression so satisfactorily speaks well for the solid foundation on which it rests and the carefulness with which a finan-



cial reserve sufficient to maintain our activities had been provided. We had begun new and costly activities which must be carried through, and among these a two volume History of Medicine in Michigan was on the way. In the midst of the depression we carried through our Survey of Medical and Health Agencies, and, while we received some financial help from outside sources, the Society itself expended several thousands of dollars, an accomplishment in which we take great pride.

The depression, as everyone is painfully aware, had its influence on the State Society. It brought to the surface individual worries and irritations, concern for the financial future of the doctor himself, concern for American medicine lest the new era demand the discarding of some of our most cherished ideals, concern that medicine may become mass production, and with regimentation the loss of that cherished close personal relation between doctor and patient. It is not surprising that the depressed, worried and anxious doctor began to show symptoms of unrest. While on the one hand there was opposition to the growing movement toward some type of social medicine, on the other hand, and not infrequently from the same individuals, came suggestions for Society activities which would lead to the same end. Opposition to state medicine was and is general, and yet at the same time there is freely expressed the view that the government, federal or state, should shoulder the burden of medical care for the indigent and for the lower income group.

Confronted with what has been in a sense a world cataclysm, with numerous theorists, social workers, New Deal prophets and proposed experiments of a socialistic nature, is it any wonder that the profession is apprehensive?

The response to this restlessness and concern lest legislative activities shall result to our disadvantage, and a feeling on the part of many that it is essential that the Society should take a more aggressive attitude politically, may well mark the beginning of a fourth period. In this period it seems reasonable that the Society should continue its forward movement, but with its activities directed along economic lines, the emphasis being placed on social legislation and social economics rather than on the scientific program. It may be that this is the logical way,

a trend necessitated by the movement towards federal and state social legislation.

This last period is being inaugurated with an executive secretary acting under Doctor Ekelund, the medical secretary, with offices in the capital of the state. When the need arises the House of Delegates has provided for a so-called "Legislative Observer." As some one has said, we will be carrying a good deal of sail, but the race is to the swift, and, if the objectives are worth while, the Society can well afford to balance the ship with sufficient funds. No one who knows anything about the secretary's job but must know that the Society's activities have grown quite too large to be handled satisfactorily on a part-time basis. Under this plan there should be opportunity, too, for constructive work along scientific education and humanitarian lines.

The subject of legislative activity, more especially the procedure, is one in which there is a wide difference of opinion among the members of the profession, but no serious schism within the Society should occur on this account. There are many who believe, and I among them, that legislation can only be molded to our desires by creating sound public opinion, and that when we enter as combatants in the political arena we forfeit our opportunity and a certain respect which the profession, over the centuries, has so well earned. Yet I must admit that there are arguments on the other side and particularly at this time when it is to be expected that bills of an experimental type tending to legislative control of the practice of medicine will be introduced into the legislature.

During the period just passed the unrest has been manifest from time to time in more or less dissatisfaction with the chosen leaders. Occasionally one has seen a tendency to resent the slight pressure of organizational discipline necessary in any well run organization, and I would take the occasion to bespeak for the officers and the Council of the State Society that confidence in their ability and their actions which they should have as your elected representatives.

The general plan of organization of this Society, which is similar to that of most state societies, has proven satisfactory over many years. It would seem unlikely that any change in the organizational setup would be for the better. Any proposed change should,

in fact *must*, be studied long and with the greatest care.

In medicine, as in government, in politics and in society, there is a call for leadership. It is a favorite theme for the newspaper and magazine article. We hear it from the pulpit and the rostrum. Now, there are few natural leaders. Men become leaders most frequently because they are placed in a position where leadership is demanded. Your officers, including your Council, have no illusions in regard to their qualifications for leadership. You have placed them in positions of trust and as a group they have endeavored to accept their responsibilities to the best of their ability. They have watched, as you have, with grave concern, that threatened change in the social order which must carry with it a new economic pattern in the practice of medicine. They have ever stood ready to exert what influence they possessed to support and protect the profession. They have realized that belligerent attitudes would be, of all methods, the least effective in obtaining our objectives. This does not mean that the profession should not be courageous, or that it should sit quietly by when its foundations are being attacked,—and it does not mean that panaceas, however locally acceptable, should be accepted as a general policy. Neither County nor State can safely assume an independent attitude. Organized medicine is powerful only when there is complete unity behind it. If you feel that there is a lack of aggressive leadership in the American Medical Association, or in your State Society, elect the man who, you feel, can give you that leadership, but in the meantime stand solidly back of your representatives.

Now, in closing, may I ask for my successor in office, and for Mr. Burns, the new executive secretary, your conscientious support.

To President Penberthy, Chairman Cook and to my associates on the Council over so many years, I would express my heartfelt thanks for many favors bestowed and a deep appreciation of their loyal coöperation. As I leave active participation in organizational activities I carry many happy memories and I assure you that my interest in the success of this Society and Organized Medicine will not cease.

BURTON R. CORBUS.

## MICHIGAN WOMEN PHYSICIANS MEET AT THE SOO

The annual meeting of the Michigan Branch of the Medical Women's National Association was held at Sault Ste. Marie, September 22 to 25, in conjunction with the Michigan State Medical Society meeting.

Dr. Mary Campbell of Detroit conducted a very interesting symposium on conception and contraception and illustrated her talk by graphs and a fine résumé of movie films showing the various birth-control appliances and describing their adjustment.

At a joint dinner meeting of the members of the Michigan Branch of the Medical Women's National Association, of the Bowating Club, of the Newberry Business and Professional Women's Club, and the Nurses Association of Sault Ste. Marie and the Canadian Sault, Dr. Bertha L. Selmon of Battle Creek spoke on the topic "A Century of Health Progress" and Dr. Kathryn Bryan of Manistee talked on "Mental Hygiene for Business Women."

Dr. Frances Ford of Detroit discussed at the final meeting the plans for participation of the Medical Women's National Association in the program of the International Association of Medical Women at Edinburgh, Scotland, in 1937. Dr. Maud Slye of Chicago, Dr. Bertha Van Hoosen of Chicago and Dr. Frances A. Ford of Detroit will take part in a symposium on cancer.

It was decided to hold the 1936 annual meeting at Detroit in conjunction with the meeting of the Michigan State Medical Society. Dr. Mary Campbell of Detroit was appointed chairman of a committee to make arrangements for the 1936 annual meeting.

Dr. Bertha L. Selmon of Battle Creek was reelected president and Dr. Saba Kessler of Bay City, secretary-treasurer.

SABA KESSLER, *Secretary-Treasurer.*

---

*Kincardine, Ontario, has a monument in a public square dedicated to the memory of an old doctor, a Dr. Secord, who had served in the Civil War, and afterwards located in Canada. The monument bears the following inscription from Chaucer's prologue to the Canterbury Tales:*

*"He knew the cause  
Of everick maladye  
Where it hoot or cold  
Or moyste or drye  
And where they engendered  
And of what humour  
He was a Verray  
Parfit praktisour."*



**ANNUAL MEETING OF THE COUNCIL**

Sunday Evening, September 22, 1935

The Council of the Michigan State Medical Society convened in the Country Club at Sault Ste. Marie, Michigan, at 7:00 P. M., Sunday, September 22, 1935.

Present: Councilors Brunk, McIntyre, Hafford, Boys, Moore, Powers, Heavenrich, MacMullen, Urmston, Perry, Baker, Carstens, VanLeuven, Manthei, Cummings, President Smith, President-elect Penberthy, Treasurer Hyland, Speaker Luce, Secretary Corbus, Secretary-elect Ekelund.

Absent: Treynor.

Upon the announcement of the serious illness of Councilor Treynor, Heavenrich-Urmston moved that the Secretary be directed to extend to him the sympathy of the Council and its best wishes for his speedy recovery. Carried.

On motion, properly seconded, the minutes of the January Council meeting and those of the Executive Committee, as published in the JOURNAL, were approved with the following corrections, both of these corrections referring to the minutes of the August 1 meeting:

1. Referring to the loss sustained in the publication of the Medical History of Michigan. This figure should be \$3,200.

2. The addition of Doctor Luce's name in the list of those present.

The Chairman presented for consideration a suggested Annual Report of the Council to the House of Delegates, a copy of which had been sent to each Councilor. This was discussed paragraph by paragraph and the Secretary directed to make certain changes and additions upon completion of which the Council accepted the report and directed its transmission by the Chairman to the House of Delegates.

The Secretary presented a detailed statement of the finances of the Society, reporting that there was cash on hand of \$10,932.00. He stated that the Society had kept within its budget of \$5.50 for Society activities. He stated that the dues had come in in a most gratifying way and that little addition to the present balance could be expected until the dues began to come in next year. Without any unforeseen expenses the cash on hand should be sufficient to carry the Society through the next four months.

The Secretary reported on the membership of the Society as of September 1, 1935. On that date the Society had a membership of 3,468. This was an increase of 302 members over a year ago and an increase of 105 members since January 1, 1935.

As directed by the Executive Committee at its August 1 meeting, the Secretary presented the claim of the Bruce Publishing Co. for an unpaid balance due them for the publication of the Medical History of Michigan. It was shown that the Society had ordered 700 additional copies, of which approximately 400 had been sold. In addition, the Society had also advised the Bruce Publishing Co. that it was anticipated that more would be needed. The Bruce Publishing Co. had, on that advice but without authorization, printed 400 extra copies. The total loss on the History the Bruce Publishing Co. states is upwards of \$6,000. The Society is obligated, however, only for the 700 volumes, approximately \$3,200, and the Bruce Publishing Co., in appreciation of our business relations, offers to carry one-half of this loss and requests the Society to pay the other half. On motion of Heavenrich-Luce, this offer was accepted and the Secretary ordered to make the payment of an amount not to exceed \$1,600 and discharge the obligation.

The Secretary requested advice as to what, if any, recognition should be given in appreciation of

the unusual Scientific Exhibits. On motion of Boys-Moore, the President was directed to appoint a secret Committee to determine the especially worthy exhibits and the Secretary directed to prepare the proper recognition. This motion carried with it an appropriation and the Secretary was instructed to keep the cost within \$50.00.

The Secretary presented a telegram from Secretary Olin West of the American Medical Association stating that he had received what he believed to be authoritative advice that the Federal Government would positively discontinue all direct relief, including medical care, on November 1. On motion of Baker-McIntyre, the telegram was ordered to be read to the House of Delegates and appended to the report of the Council.

A resolution presented by the Ingham County Medical Society was discussed and ordered referred to the Executive Committee.

The Secretary stated that he would be prepared to turn over his office to the Secretary-elect immediately after the completion of the audit. Since this would carry the office a few days beyond October 1, the following motion was made by Heavenrich and seconded by Carstens and carried:

That the action of the Council electing the Secretary to serve until October 1, 1935, be rescinded and the present Secretary be continued in office until November 1 or to such earlier date as will be advantageous to the Society and convenient to the incoming Secretary.

Doctor Perry, Councilor of the 12th District, presented a request from a doctor who claimed that he had been unfairly expelled from his County Society. Upon investigation it was shown that this doctor was not an expelled member but a new applicant. In such cases the Council has no jurisdiction and the Councilor was directed accordingly.

Adjournment at 12:00 midnight.

BURTON R. CORBUS, *Secretary*.

**SECOND MEETING OF THE COUNCIL**

Tuesday Evening, September 24, 1935

The Council of the Michigan State Medical Society convened in the Ojibway Hotel, Sault Ste. Marie, Michigan, Tuesday evening, September 24, 1935.

Present: Councilors Carstens, McIntyre, Hafford, Boys, Cook, Heavenrich, Powers, MacMullen, Urmston, Bandy, Baker, VanLeuven, Cummings, Brunk, Manthei, Speaker Reeder—16. President Penberthy, President-elect Perry, Editor Dempster, Secretary Corbus, Secretary-elect Ekelund.

Absent: Treynor, Moore.

The Secretary transmitted a report from the House of Delegates directing the employment of an Executive Secretary without delay.

President Penberthy summarized certain recommendations as embraced by his address to the House of Delegates which were favorably reported in the House on motion of the Reference Committee. Doctor Penberthy specifically asked the approval of three committees: First, a Committee on Mental Hygiene; Second, a Committee to handle the business affairs of the profession in negotiations regarding the medical care of afflicted and crippled children, afflicted adults and employees on work relief projects; Third, a Joint Committee comprised of members of the Michigan State Medical Society, the State Bar Association and the Dental Nursing and Pharmacy Professions.

**Elections**

Chairman Powers in the chair announced that he was not a candidate for re-election.

Dr. Cook was nominated for Chairman of the Council by Doctor Heavenrich. Dr. Carstens moved, seconded by several, that the nominations be closed and the Secretary cast a unanimous ballot for Dr. Cook.

On motion of Drs. Baker-McIntyre, the deepest appreciation of the Council to Dr. Powers as retiring Chairman was made a matter of record. Carried unanimously.

Dr. Heavenrich was nominated for Vice-Chairman by Dr. McIntyre. On motion of Drs. Boys and MacMullen the nominations were ordered closed and the Secretary instructed to cast a unanimous ballot for Dr. Heavenrich.

Dr. Carstens was nominated for Chairman of the Finance Committee by Dr. Boys. The nominations being closed, the Secretary cast a unanimous ballot for Dr. Carstens.

Dr. Brunk was nominated for Chairman of Publications Committee by Dr. MacMullen. On motion of Drs. Baker-Boys, the nominations were ordered closed and a unanimous ballot was cast for Dr. Brunk.

Dr. Boys was nominated for Chairman of the County Societies Committee by Dr. Carstens. On motion of Dr. Manthei and several, the nominations were closed and the Secretary instructed to cast the unanimous ballot.

Under the by-laws, the five Councilors just elected, with the Speaker of the House, and the ex-officio members constitute the Executive Committee of the Council for the coming year.

The question of the employment of an Executive Secretary was the next order of business. The activities of the special Committee appointed in 1934 to consider the qualifications of available candidates were reviewed. It was pointed out that the appointment should be made as early as possible, not only to act in conformity with the instructions from the House of Delegates, but to avoid the expense of moving the office twice within a few months. It was also pointed out that although the present financial status of the Society was satisfactory, it would be necessary to raise dues during 1936 to meet the increased cost. The last action of the House of Delegates on this point has set the dues at \$10.00 per year. The reduction to \$8.50 voted by the Council a few years ago as a depression measure can be rescinded and the rate will automatically return to \$10.00.

On motion of Drs. Powers-Hafford, the Executive Committee was empowered to employ an Executive Secretary in accordance with the instructions from the House of Delegates.

Further discussion ensued relative to the appointment of a Committee to act for the State Society in negotiations with governmental and private agencies and led to a motion by Drs. Powers-MacMullen that the Executive Committee, in collaboration with the President, appoint a special committee with full power to act in such negotiations and to approve temporary fee schedules, the Executive Committee to function in the interim. This was unanimously carried.

Recognition was taken of the personal sacrifice made by Doctor Bradley as Chairman of the Legislative Committee over a five months' period during the last legislative session. Dr. Bradley gave freely of his time and substance and did much toward establishing friendly relations between the profession and the legislature. On motion of Drs. McIntyre-MacMullen, an honorarium of \$500 was voted to Doctor Bradley in recognition of his efforts.

Adjournment.

BURTON R. CORBUS, *Secretary*.

## MINUTES OF THE MEETING OF THE EXECUTIVE COMMITTEE OF THE COUNCIL

Wednesday, October 9, 1935

1. The Executive Committee of the Council of the Michigan State Medical Society convened in the Woodward Room, Statler Hotel, Detroit, at 6:40 P. M., Wednesday, October 9, 1935. Dr. Henry Cook, chairman, called the meeting to order.

Present: Councilors Henry Cook, T. F. Heavenrich, C. E. Boys, H. R. Carstens, A. S. Brunk and Frank E. Reeder; also present were President Grover C. Penberthy, Secretary B. R. Corbus, Secretary-Elect C. T. Ekelund, and Editor James H. Dempster; William J. Stapleton, Jr., Secretary of the Executive Board Medical Defense; F. A. Kelly, H. A. Luce and J. M. Robb of the Wayne County Medical Society; H. B. Fenech of the Crippled Children Commission, and Executive Secretary William J. Burns.

2. The minutes of the annual meeting of The Council of September 22, 1935, and of The Council of September 24, 1935, both held in Sault Ste. Marie, were read by Secretary Corbus, and approved as read.

3. President Penberthy reported on the action of Drs. Cook and Penberthy in employing an executive secretary, according to instructions from the House of Delegates and The Council. Motion of Drs. Heavenrich-Brunk that the action of the Special Committee (Drs. Cook and Penberthy) in hiring William J. Burns as executive secretary be ratified. Carried unanimously.

4. Messrs. Barrett and Hansell of the Detroit Convention and Tourist Bureau were called upon relative to tentative plans for the 1936 Annual Meeting of the Michigan State Medical Society. The Executive Committee requested Dr. Penberthy and the Secretary to meet with these gentlemen, arrange details, and present plans and recommendations to the Executive Committee at its next meeting.

5. The Executive Committee, on motion of Drs. Boys-Heavenrich, authorized a monthly letter, containing matters of a confidential nature, to be sent to officers of the State Society, members of The Council, Delegates and Alternates, and to Presidents, Secretaries, and Editors of County Medical Societies. Carried unanimously.

6. The Executive Committee discussed the 1936 Secretaries Conference. Motion of Doctors Boys-Reeder that the Secretaries of the Michigan State Medical Society be authorized to make full arrangements for the 1936 Secretaries Conference, and to report back to the Executive Committee.

7. Dr. Ekelund reported on available space in Lansing for the executive headquarters for the State Society. The space at 2020 Olds Tower seemed most desirable, at \$60.00 per month. Motion of Doctors Heavenrich-Carstens that the Secretary be instructed to lease these premises. Carried unanimously. Motion of Doctors Boys-Carstens that the President and Secretary of the State Society be authorized to sign lease with R. E. Olds Co. for office space in the Olds Tower Building. Carried unanimously.

8. The tentative budget of the State Society for 1936 is being worked upon by Dr. Carstens, Chairman of Finance Committee, who was requested to report on same at the next meeting of the Executive Committee. In the meantime, Dr. Carstens will be supplied with the Auditor's Report as of October, 1935.

9. Regarding the recent decision of the Circuit Court relative to the rights of osteopaths to practice medicine and surgery: Dr. Kelly reported on



the conduct of this case. After a full discussion, the matter, under a resolution, on motion of Brunk, seconded by Carstens, was referred to our attorneys.

10. The Executive Committee considered the present tangle in the administration of the Afflicted Child-Crippled Child Laws. Motion of Doctors Carstens-Brunk that the Executive Committee proceed without a rereading of the Secretary's brief of arguments which might be presented to the State Administrative Board, copy of which had been sent by Dr. Ekelund to each member of the Executive Committee. Carried unanimously. General discussion by members of the Executive Committee and by Dr. Fenech. It was the consensus of opinion that the Executive Committee should handle this problem of child care, representing as it does the entire profession. To accomplish this end, and place the matter in the hands of the Executive Committee with full power to act, motion was made by Doctors Heavenrich-Brunk to rescind the action taken at the Executive Committee's meeting at Sault Ste. Marie, on September 25, 1935, re: the appointment of a special committee to handle this matter. Motion carried.

Re: presentation of the medical problem to the State Administrative Board. Doctors Carstens-Brunk moved that, if in their judgment advisable, the Chairman of the Council and the President of the Society be authorized to invite other members of the Michigan State Medical Society to attend these meetings. Carried.

Dr. Fenech suggested that the Crippled Children Commission would be happy to have an official representative of the Michigan State Medical Society present at all meetings of the Commission, and recommended that Dr. Corbus contact Chairman Hugh E. Van de Walker relative to an official invitation. Motion of Doctors Carstens-Reeder that the Executive Committee designate Secretary Ekelund to be contact man for the Michigan State Medical Society with the Crippled Children Commission. Carried unanimously.

Dr. Fenech brought up the problem of approving hospitals to be used for cases under the supervision of the Crippled Children Commission. The Executive Committee referred this matter to the Hospital Association Liaison Committee for study and report.

11. President Penberthy presented his commitments to the Executive Committee for approval. After full discussion the following appointments were approved. (See front pages, JOURNAL.)

12. Mr. G. St. John Perrot, Chief Statistician of the United States Public Health Service, was invited into the meeting to explain the WPA Health Survey to begin October 15, 1935. The survey will cost \$3,450,000 and will reach 750,000 families in nineteen states. The headquarters will be in Detroit. The survey will cover three phases: (a) a house to house canvass to get information on disabling illness. Here the coöperation of the medical profession is necessary to verify diagnoses; (b) a study of occupational diseases and of sickness benefit associations; (c) a study of Public Health facilities. Mr. Perrot outlined his negotiations with the A. M. A., whose Board of Trustees discussed this matter on September 26, 1935. He stated that a manual of information will be sent to those State and County Medical Societies in which the survey will be conducted. Questions were asked, and recommendation was made that in question 53, the following be inserted: "Have you consulted your family physician \* \* \* within the last twelve months?" The Executive Committee requested Mr. Perrot to keep in touch with the Executive Secretary.

13. The Executive Committee authorized contin-

uance of the policy that the checks of the State Society shall be signed by the Secretary. The matter of duties of the Medical Secretary and of the Executive Secretary were discussed, and referred to these men to work out and make report at next meeting of the Executive Committee.

The meeting was adjourned at 12:50 a. m.

B. R. CORBUS, *Secretary*.

## MINUTES OF THE EXECUTIVE COMMITTEE OF THE COUNCIL

Friday, October 18, 1935

1. The meeting was called to order in the Olds Hotel at 9:20 a. m. by Chairman Cook. Present were Doctors Henry Cook, A. S. Brunk, H. R. Carstens, T. F. Heavenrich and F. E. Reeder. Also present were: President Grover C. Penberthy, Secretaries B. R. Corbus and C. T. Ekelund, Councilor J. Earl McIntyre, Dr. S. W. Insley; also Mr. Hugh Van de Walker and Dr. H. B. Fenech of the Crippled Children Commission, and Executive Secretary Wm. J. Burns.

2. Chairman Cook read a statement proposed for presentation to the Governor's Special Committee Appointed to Investigate the Matter of Obtaining Funds for the Operation of the Afflicted and Crippled Children Acts. This committee was convening at 10:00 a. m. for an all-day session in the House of Representatives Chamber, to which the Judges of Probate, Representatives of this Society and others interested had been invited. The statement was fully discussed and after minor corrections was approved.

3. The matter of lease in the Olds Tower was discussed. It was felt that a three-year lease should be obtained, if possible. Motion of Doctors Heavenrich-Brunk that the Michigan State Medical Society enter into a three-year lease for space at 2020 Olds Tower, Lansing, at sixty dollars per month, was carried unanimously.

4. Dr. Corbus stated that he was ready to move the equipment of the Executive Offices as soon as the space in the Olds Tower would be ready for occupancy, which is scheduled for November 1, 1935. The books of the State Society will be audited before that date.

5. Dr. Corbus asked the advice of the Executive Committee relative to appointment of Section officers in those Sections which did not hold elections in Sault Ste. Marie. Dr. Corbus was authorized to work this out with the present officers of the various Sections.

6. The meeting was adjourned at 9:50 a. m.

B. R. CORBUS, *Secretary*.

## PEDIATRICIANS MEET

The University of Michigan Pediatric and Infectious Disease Society will hold its annual meeting at Ann Arbor, November 22 and 23, 1935. The meetings will be held on the second floor, University Hospital. The program is as follows:

Friday Afternoon, November 22, 2:00 o'clock

### Clinical Session

1. Severe Nutritional Diseases in Infancy and Childhood. DR. W. McKIM MARRIOTT, St. Louis, Missouri.
2. Further Observations on Undulant Fever in Children with Report of an Unusual Case. DR. JOHN SANDER, Lansing, Michigan.
3. Calcified Abdominal Glands in Children. DR. CLEMENT SMITH, Boston, Massachusetts.

4. Observations on the Use of Adult Serum as a Prophylactic Measure in Measles. DR. PARK S. BRADSHAW, Ann Arbor.
5. Measles Encephalitis. Report of Nine Cases. DR. LOUISE F. SCHNUTE, Ann Arbor.
6. Luckenschadel of the New Born. DR. HAROLD B. ROTHBART, Ann Arbor.
7. Encephalography in Infants and Children. DR. JOHN L. LAW, Ann Arbor.
8. The 1935 Status of Research on Endocrines. DR. E. A. SHARP, Detroit, Michigan.
9. A Comprehensive Review of the Literature on the Use of Iodized Salt in Goiter Prophylaxis. DR. HARRY TOWSLEY, Ann Arbor.
10. Puncture Biopsy as a Diagnostic Measure. DR. D. M. COWIE, Ann Arbor.

#### Friday Evening, November 22, 7:30 o'clock

##### *Business Session*

President's Address—DR. DANIEL BUDSON, Detroit, Michigan.

##### *Open Forum*

on

##### *Infant Feeding*

In charge of

DR. W. McKIM MARRIOTT,  
St. Louis, Missouri

#### Saturday Morning, November 23, 9:00 o'clock

1. The Rôle of Mucin in Experimental Respiratory Infections. DR. W. NUNGSTER, Ann Arbor.
2. Observations on Carbohydrate Tolerance in Juvenile Diabetes. DR. M. COOPERSTOCK, Marquette, Michigan.
3. Observation on the Addis Urine Sediment Count in Juvenile Nephritis with Reference to the Effect of High Protein Diet. DR. HAROLD ROTHBART, Ann Arbor.
4. The Effect of a Generous but Unfortified Diet on Rachitic Rats. DR. C. A. LILLY, Ann Arbor.
5. Abdominal Tumors in Children: Report of a Series of Cases. DR. LOUIS M. HARLEY, Ann Arbor.
6. Observations on Sensitization and the Intelligence Quotient. DR. B. JIMÉNEZ, Ann Arbor.
7. The Question of Circulating Allergic Antibody. DR. D. M. COWIE, DR. M. FENTON, and MR. JOHN ENGELFRIED.
8. The Interpretation of the Early and Delayed Intradermal Reaction in Allergic Individuals. DR. WILMA SACKS, Ann Arbor.
9. Histamine in Relation to the Intradermal Reaction to Allergens in Sensitized Individuals. DR. D. M. COWIE, DR. WILMA SACKS, and MR. JOHN ENGELFRIED.
10. Comparative Yearly Surveys of Specific Sensitization in Students of the University of Michigan from 1930 to 1935. DR. B. JIMÉNEZ, Ann Arbor.

#### AFFLICTED-CRIPPLED CHILDREN CONFERENCE

Governor Fitzgerald's Special Committee Appointed to Investigate the Matter of Hospitalizing Afflicted and Crippled Children held an all-day session in the Chamber of the House of Representatives, Lansing, on Friday, October 18, 1935. The Executive Committee of the Michigan State Medical Society, in response to an invitation from the Governor, was present at this session. The meeting began at 10:00 a. m., with the discussion by the Probate Judges of the State of the present tangle in the administration of the Afflicted Child Law and

the Crippled Child Law. Dr. Henry Cook, Flint, Chairman of the Council, was called upon and expressed the attitude of the Michigan State Medical Society in a statement which was met with a round of applause. All phases of the problem were presented by Representatives of the State Administrative Board, the Auditor General's Office, the Crippled Children Commission, the Probate Judges Association, the Michigan Legislature, the State Welfare Department, and the Michigan State Medical Society. The final result was the formation of a Special Committee of representatives of the Probate Judges Association, the Michigan State Medical Society, and the Michigan Hospital Association, three from each group. Each unit was instructed to study the problems and develop a proposed solution for presentation to the Committee of nine on October 30, 1935, at which time one unified plan could be adopted and put into action.

The Committee representing the Michigan State Medical Society was Dr. Henry Cook, Flint; Dr. Grover C. Penberthy, Detroit, and Dr. J. Earl McIntyre, Lansing.

## COUNTY SOCIETIES

#### LIVINGSTON COUNTY MEDICAL SOCIETY

The October meeting of the Livingston County Medical Society was held at the Michigan State Sanatorium, the evening of October 4. After a 6:30 dinner, the Society was addressed by Dr. Leon Bogart of Flint, whose subject was "Emergency Surgery of the Abdomen." The speaker described his method of the prevention of abdominal adhesions in infected cases. Dr. Bogart also gave an interesting talk on his experiences during the summer cruise of the Pan-American Medical Association to Central and South America, from which he recently returned. A very instructive discussion followed the address.

H. L. SIGLER, *Secretary*.

#### WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, *President*, Kalamazoo.  
MRS. F. M. DOYLE, *Secretary*, Kalamazoo.

#### WOMAN'S AUXILIARY M.S.M.S.

Another Auxiliary year passed into history with the closing of the Ninth Annual Convention of the Woman's Auxiliary to the Michigan State Medical Society, which was held at Sault Ste. Marie, Michigan, September 23, 24 and 25, 1935, with the Marine Lounge of the Hotel Ojibway as headquarters.

A pre-convention board meeting, with five State Board members and five county presidents attending, was held at 10 A. M., on Tuesday, September 24. It was decided at this meeting that the State Auxiliary should follow the precedent of the National Auxiliary in that the vice president automatically become Organization Chairman. It was suggested that the state be divided into five districts with a representative from each acting as co-chairman of organization.

Following the board meeting, Mrs. A. M. Giddings, president-elect, met with the county presidents and discussed plans for the coming year's work.



At 12:30 P. M., about seventy members and guests of the Auxiliary were most delightfully entertained at luncheon at the Country Club, with the Hon. Chase S. Osborn, of the "Soo," as guest speaker. Dr. C. J. Ennis, introducing Mr. Osborn, expressed his high esteem for the former governor and told of his numerous gifts to Sault Ste. Marie.

The importance of the part played by doctors' wives was the theme of Mr. Osborn's talk. He commended the work accomplished by the group. He reviewed the early history of the Sault since it was under the British flag and told most interesting stories of some of the historic relics now owned by the Country Club. In his closing statement, Mr. Osborn, whose mother, he stated, was the second woman practitioner in the United States, said, "You are the hope of society, the ultimate of the earth."

At 3:30 that afternoon about fifty ladies enjoyed a boat trip on the cabin cruiser, "Bide-a-Wee," locking up through the "Weitzel" canal on the American side, a short trip up St. Mary's river, and down through the Canadian locks.

The annual meeting opened at 10 A. M., Wednesday, September 25, with the president, Mrs. F. T. Andrews, presiding. Annual reports of officers and department chairmen were given, also reports of the year's activities of the county units by the county presidents.

Mrs. Andrews reviewed the year's work of the State Auxiliary as well as the 13th Annual National Convention at Atlantic City in June. In her report she urged 100 per cent organization in the State.

Resolutions on the death of Mrs. A. W. Crane, one of our state organizers and Honorary State President, were read and accepted.

Mrs. Guy L. Kiefer, of Lansing, first state president of the Auxiliary, was made Honorary State President.

The recommendation of the Revision Chairman, that the presidents of county groups be guests at all state board meetings, was approved and passed.

The following officers were elected for the coming year:

President—Mrs. A. M. Giddings, Battle Creek, Mich.  
President-elect—Mrs. A. V. Wenger, Grand Rapids, Mich.

Vice-president—Mrs. J. A. McLandress, Saginaw, Mich.

Mrs. Kenneth Lowe, of Battle Creek, was appointed Secretary-Treasurer by the president, Mrs. A. M. Giddings.

Dr. C. S. Gorsline, of Battle Creek, spoke briefly, urging the use of our health magazine, *Hygeia*, which he termed "the only authentic, medically supervised and ably edited health magazine in the world." He recommended that each Auxiliary be responsible for the distribution of the publication in all schools, city and rural, and urged that the campaign for the following year be started in May. Dr. Gorsline stated, "I believe that it is the most far-reaching and the most important work with which the Woman's Auxiliary throughout the United States can concern itself."

Mrs. Giddings briefly presented plans for the coming year, stressing organization, and stated, "I pledge my best efforts, and ask your cooperation."

A complimentary reception and tea for Mrs. Giddings was held at the Country Club at 4 p. m. Wednesday, with the Chippewa-Mackinac County physicians' wives as hostesses.

League and the Central High School milk fund. Plans are going forward for a public meeting with an out-of-state speaker.

*Calhoun County.*—Has provided to the extent of \$50 worth maternity kits for use in homes of indigent patients as an aid for the attending physician. In conjunction with the Kellogg Foundation they furnished more than 1500 subscriptions to *Hygeia*. They contributed \$50 to the Starr Commonwealth at Albion and instituted an annual affair complimenting, at graduation time, the senior nurses of the county hospitals.

*Jackson County.*—Planned and advertised a public lecture by Dr. Bloodgood, inviting members from neighboring counties. This had to be postponed because of illness of Dr. Bloodgood. Had instructive lecture on state legislation by one of the members of the State Medical Society legislative committee. Also, lecture by state officer of Nurses Association. Closed year with luncheon at which members from Kalamazoo, Calhoun and Ingham Counties were guests, and Dr. J. L. Hirschman of the Advisory Board was speaker.

*Kent County.*—"At the beginning of the year our membership committee contacted everyone eligible to membership, with the result that 174 were placed on teams. This number was divided among eight leaders. At this meeting each team leader was assigned a meeting at which her team should be responsible for the afternoon tea following each regular meeting. The social hour provided a medium for making new acquaintances, renewing old ones, and added a great deal to promote the welfare and sustain interest in the Auxiliary." Instructive lectures and book reviews. Contributed to Kent County Medical Society library and helped purchase dishes and silver for club rooms. Created a benevolence fund (proceeds from rummage sale) for the care of members of the Kent County Medical Society in distress because of age, misfortune, or infirmity, and their dependents, to be expended at the direction of the Board of Directors of the Society. Assisted in sale of tickets for philanthropic enterprises. Entertained members of State Board at a musical tea.

*Wayne County.*—Educational opportunity offered the public in a series of three lectures arranged by the Public Relations Committee. Dr. Thurman B. Rice, Indiana State Medical Association, Dr. F. L. Rector, Field Representative American Society for the Control of Cancer, and Dr. Morris Fishbein, Editor, *Journal of the American Medical Association*, were the speakers. Held Arts and Crafts Exhibit, displaying artistic handicraft of doctors of Wayne County Medical Society or members of their families. Two outstanding festivities for holiday season—a Children's Christmas Party and the Young People's Dance (Cabaret Style). Added sixty-six names to membership list. Held open house for social workers.

*Saginaw County.*—Held meetings on same evening that the Saginaw County Medical Society met. Noted increased attendance. A short educational program preceded social hour. "Bring-Your-Husband" dinner dance annual affair.

*Kalamazoo County.*—Allegan, Van Buren and Kalamazoo combined. Held monthly meetings featuring cooperative dinners. Indigent mother given complete layette—permanent baby basket established. Remembered old people, suggested by the Federal Welfare, with gifts at Christmas time. "Through two large bridge benefits we raised \$350 toward purchasing a Fairchild radio ear for the deaf children in the Kalamazoo public schools, thus enabling

### Highlights of County Reports

*Bay County.*—Has had several interesting and instructive talks on local and medical subjects. Donations of money have been made to the Civic

these totally deaf children to hear music and other programs for the first time."

October 2, 1935.

To the Members of the Woman's Auxiliary to the Michigan State Medical Society:

With gratitude and a deep sense of responsibility I accept the office and acknowledge the honor of being elected your president-elect.

After much persuasion, I came to feel it an obligation to accept the office:

I shall endeavor to perform the duties devolving upon me with credit, and to make duty a pleasure.

I thank all the delegates for honoring me and hope that I may merit their confidence.

Sincerely yours,

(MRS. A. V.) FANNIE L. WENGER.

#### Dr. Caroline Bartlett Crane

We, the Woman's Auxiliary to the Michigan State Medical Society, submit to the all-wise providence of the final summons of our valued Honorary President and organizer, Dr. Caroline Bartlett Crane, and

Whereas, we too have suffered the never to be regained loss of her wise counsel and guidance,

Therefore be it Resolved: That we deplore the loss of Dr. Caroline Bartlett Crane with deep feelings of regret softened only by the confident hope that her spirit is carried on in all the worthy causes in which she was interested and, be it further resolved, that our sincere condolence and our earnest sympathy be extended to Dr. A. W. Crane and family and a copy be sent to the Michigan State Medical JOURNAL and one be spread upon the records of our Auxiliary.

ETHEL F. BENNETT,

CHARLOTTE E. ANDREWS,

WILMA G. DOYLE.

#### Wayne County

The Woman's Auxiliary to the Wayne County Medical Society is anticipating another active and successful year in the history of its organization. The opening meeting was held at Parke, Davis and Company, October 11, and was arranged through the efforts of Dr. Charles E. Duchess, their Director of Medical Service. Invitations had been mailed to more than 1,500 eligible members which comprise the wives, also the mothers, daughters, sisters, as well as the widows of deceased members.

After a short business session conducted by Mrs. Frank N. Hartman, president, with greetings extended by Drs. Robert C. Jamieson, president, and Thomas K. Gruber, president-elect of the Medical Society, a delicious luncheon was served in the company cafeteria. There followed a tour of the buildings, after which each lady was given a souvenir package, representing their products.

In conjunction with the meeting of the Inter-State Post Graduate Medical Association of North America, held in Detroit the week of October 13-19, the president of the Auxiliary with her board of directors and the chairman and co-chairman of hospital committees, sponsored a tea to the visiting doctors' wives on Monday afternoon. The lovely old Whitney home made a charming setting for this event and at intervals music was furnished by the All-City Trio under the supervision of Arthur H. Searle, director of music in the public schools. Mrs. Thelma von Eisenhower, accompanied by Mrs. Edwin Sherill, delighted her audience with two groups of songs during the afternoon.

An outline of the year's work is being compiled

and will soon be ready for distribution with the year books. The personnel of the executive board of the Auxiliary for the ensuing year follows:

President, Mrs. Frank W. Hartman; vice president, Mrs. James H. Dempster; second vice president, Mrs. Ledru O. Geib; third vice president, Mrs. Frederick C. Kidner; treasurer, Mrs. Roger V. Walker; recording secretary, Mrs. Harold J. Hammond; corresponding secretary, Mrs. Allan W. McDonald; financial secretary, Mrs. Harold F. Sawyer; custodian, Mrs. William E. Blodgett. Committee chairmen: Membership, Mrs. Claire L. Straith; Social, Mrs. J. Whitlock Gordon; Program, Mrs. William O. Merrill; Courtesy, Mrs. Alex W. Blain; Press, Mrs. Milton A. Darling; Revision, Mrs. Ledru O. Geib; Public Relations, Mrs. Frederick T. Munson; Hygeia, Mrs. Clifford B. Loranger; Legislature, Mrs. Wm. H. Rieman; Welfare, Mrs. Fred M. Meader; Ways and Means, Mrs. Norman O. LaMarche; Historian, Mrs. Basil L. Connelly; Study Group, Mrs. J. Milton Robb and Mrs. Arthur B. McGraw; Art Exhibit, Mrs. James H. Dempster.

(MRS. MILTON A.) WINOGENE E. DARLING.

### MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner  
LANSING, MICHIGAN

#### Poliomyelitis

Just previous to the scheduled National Jamboree calling Boy Scouts from all parts of the world to Washington, the incidence of poliomyelitis reached its height in one or two states near Washington. Consequently the gathering of the 30,000 Boy Scouts was cancelled. Attention focused on this resulted in notice being given to the incidence of poliomyelitis in other states.

About this time the incidence in Michigan became greater than the normal incidence for the season. Many cases were reported as having mild symptoms and in fact there was question as to diagnosis in some. Nevertheless, there was unquestionably a real increase in the incidence, not only seasonal but above the average year. It is our opinion that diagnosis in the majority of cases was correct. The increase first became noticeable during the last week of July. It was not until the last half of August that the incidence became really alarming. For the last three weeks of August the number of cases reported was greater than for the corresponding weeks of the outbreak in 1931 which was the greatest in extent in Michigan. It was noted, however, that the last week of August did not show as great an increase over the preceding week as had the two weeks previous.

Beginning with September the number of cases receded, contrary to the usual seasonal curve. The peak of outbreaks in the past has never been reached before September 15 and occasionally later. Instead of an outbreak of the proportions of the 1931 epidemic when there were 1,137 cases reported, it would appear at the present writing that the total cases for this year will not exceed half of that number.

The epidemiological data have not all been examined and analyzed but information concerning a sample of approximately 100 cases indicates that about 30 per cent showed some paralysis. The case fatality rate appears low but there are not enough data available to make an estimate. In 1931 the percentage of reported cases showing paralysis was 40 and the case fatality rate 9. It would appear



that physicians are more on the alert in reporting cases previous to the time of paralysis or the abortive type which does not show paralysis.

Although word had been sent out to the medical profession that serum or blood therapy had not been proved of any value, the demand continued for serum to be used in the treatment of poliomyelitis cases. Consequently the department provided two possible ways for serum to be obtained. Any city or community wishing to collect blood from former poliomyelitis cases might send blood to the Michigan Department of Health Laboratories for processing, the serum being returned to them in 20 c.c. vials ready for use.

As a general supply for the state and more especially for those communities not able to take advantage of the above offer, a supply of blood was collected from a group of normal adults. This blood was processed and put up in vials ready for distribution. Several workers have shown that blood from a great majority of adults will neutralize the poliomyelitis virus. It was, therefore, a reasonable conclusion that normal adult serum made from the pooled blood of a large number of individuals would contain the poliomyelitis antibodies and be of as much value as that made from blood of former poliomyelitis cases. This serum was placed in the hands of 21 distributors throughout the state. The outbreak subsided early and, therefore, but a relatively small amount of serum was used.

#### Antimeningococcic Serum

As announced in the October issue of the *JOURNAL* antimeningococcic serum is now available. It has been placed in the hands of 87 distributors throughout the state. In all cases doctors will be able to obtain the serum within a relatively short distance. Any physician not knowing where the serum can be secured may wire or telephone the Lansing office of the department. Serum will either be sent or the physician notified where it can be obtained quickly.

## GENERAL NEWS AND ANNOUNCEMENTS

The Radiological Society of North America will hold its annual meeting at the Statler Hotel, Detroit, December 2 to December 6. There will be an interesting program to which the medical profession of the state is invited. Tuesday evening, December 3, at 8:30, the Carman lecture will be delivered by Dr. A. C. Christie of Washington, D. C. A special invitation is extended to the profession to attend this lecture.

\* \* \*

Members of the Wayne County Medical Society were the guests of Drs. Evans and Geib at a luncheon, October 17, when a very interesting address was delivered by Dr. A. C. Christie of Washington, D. C. Dr. Christie spoke on the subject "Medical Economics." He strongly emphasized the necessity for coöperation among all members of the medical profession. He spoke approvingly of the Wayne County plan and stated that it had been adopted by many societies throughout the United States with the modifications necessary to the local conditions.

The West Side Medical Society of Detroit, a branch of the Wayne County Medical Society, is endeavoring to render its meetings of greater practical value to the members. The program for the October meeting, held October 3 at the club rooms, was as follows:

Tuberculin Test (Demonstration)—Dr. D. S. Brachman.

Hayden-Hausser Hemoglobinometer (Demonstration)—Dr. J. B. Rieger.

Pneumococcus Typing (Demonstration)—Dr. J. A. Kasper.

Aschheim-Zondek Test (Demonstration)—Dr. H. E. Cope.

Thyroidectomy in Heart Disease—Dr. Clark Lemley.

Pavaex Therapy (Demonstration)—Dr. M. P. Meyers.

Transillumination of the Breast (Demonstration)—Dr. O. A. Brines.

\* \* \*

The opening meeting of the Wayne County Medical Society, October 7, was addressed by Dr. Henry Coutard of Paris, France. The meeting was in collaboration with the Detroit Roentgen Ray and Radium Society. The *Detroit Medical News* contains the following account of Dr. Coutard's professional career:

"Dr. Coutard was born in 1876 at Sarthe, France. In 1902, he was graduated from the University of Paris with the degree of Doctor of Medicine. From 1906 to 1911 he engaged in physical and biological researches on roentgen rays and radium, extending the work into the field of radium emanation and the group of radio-active substances, from 1911 to 1914. He was assistant at the radiological laboratory of Gif, near Paris, from 1912 to 1914, in which capacity he continued researches on the measurement of roentgen rays, the gamma and alpha rays, and also studied the ionization of gas and the coefficients of solubility of radioactive gas in organic liquids.

"During the war, Dr. Coutard was in charge of the various mobile radiologic units in France, Roumania and Russia. Since 1919, he has been in charge of the Department of Roentgen Therapy at the Radium Institute (Curie Institute) under Professor Regaud. Here he has carried on practical researches on the treatment of cancer by roentgen rays and in particular the treatment of pavement epitheliomas, uterus, buccal cavity, pharynx and larynx."

\* \* \*

#### How It Spreads

Mary had a little cold, but wouldn't stay at home,  
And everywhere that Mary went, that cold was sure  
to roam;

It wandered into Molly's eyes and filled them full  
of tears.

It jumped from there to Bobby's nose, and thence  
to Jinnie's ears.

It painted Anna's throat bright red, and swelled  
poor Jennie's head,

Dora had a fever, and a cough put Jack to bed.  
The moral of this little tale is very quickly said—  
She could have saved a lot of pain with just one  
day in bed!

—Lucy Thibault, *Arkansas Democrat*.

## THE DOCTOR'S LIBRARY

### THE PRINCIPLES AND PRACTICE OF MEDICINE.

By Sir William Osler, M.D., F.R.S., Late Pegasus Professor of Medicine at Oxford University; Honorary Professor of Medicine in Johns Hopkins University, Baltimore; and Thomas McCrae, M.D., Fellow of the Royal College of Physicians, London; Professor of Medicine at Jefferson Medical College, Philadelphia. Twelfth Edition. Completely revised, reset, and printed from new plates. 1,245 pages. With charts and illustrations. Cloth. \$8.50.

A newly revised edition of Osler's famous work on practice is a noteworthy event in American Medicine. The first edition appeared in 1892. That this work continues to be in demand long after the author's death speaks well for its popularity as revised each time by Dr. McCrae. Every effort has been made to bring the work up to date by incorporating what has been found to be of permanent value. The revision of any work on medicine or surgery is largely a matter of elimination of the obsolete and the presentation of what is new. In the present revision Dr. McCrae has accomplished this without materially increasing the size. The book has been completely reset with a new style of type somewhat smaller but more easily read. The study of the patient is emphasized rather than too much reliance on the laboratory. Dr. McCrae is a strong advocate of physical diagnosis, which appears to have suffered with the perfection of laboratory methods. To quote: "The physician and student should always make it a rule to learn everything about a patient by the use of his own senses and brains. For example, to have a roentgenologist make the diagnosis of fluid in the pleural cavity should cause a clinician to be thoroughly ashamed of himself." So thoroughly has the work been revised that space will not permit enumeration of the additions and changes. To those who prefer a single volume on medicine that embodies the teaching of a single mind the twelfth edition of Osler will be found invaluable.

### GYNECOLOGIC AND OBSTETRICAL TUBERCULOSIS.

By Edwin M. Jameson, B.S., M.D. Fellow of Trudeau Foundation, Attending Surgeon, Saranac Lake General Hospital and Reception Hospital. Illustrated with 31 engravings. Lea & Febiger, Philadelphia, 1935.

The material for this work is derived largely from the author's experience at Saranac Lake, New York, although portions of the book comprise a review of the international literature on the subject. The author observes that alterations of the functions of the female genital organs are commonly found in tuberculous women and that non-tuberculous alterations in structure are frequently found at autopsy. Tuberculosis of each of the pelvic organs is discussed, together with its symptomatology, pathology, diagnosis and treatment, especial attention being given to the treatment of tuberculosis of the adnexa and uterus. Various laboratory diagnostic procedures as they apply to genital tuberculosis are discussed. The treatment of pregnancy in a tuberculous patient is given thorough consideration. The opinions of many authors of international repute are given and the result of much study is summarized. The author's contention is that cases must be individualized. While pregnancy is a serious complication of tuberculosis, one must decide to interrupt it or not by the careful consideration of the individual case.

The treatment of tuberculosis in a pregnant woman must follow about the same routine as would apply in the nonpregnant patient. Air injections and other operative procedures are discussed with favor. The author comments adversely and to some length on the lack of facilities for the care of pregnant tuberculous women in our hospitals and sanitarium.

F. L. P.

MODERN HOME MEDICAL ADVISER, YOUR HEALTH AND HOW TO PRESERVE IT. Edited by Morris Fishbein, M.D., with many line cut and half-tone illustrations. Doubleday, Doran and Company, Inc., Garden City, 1935, New York.

The old family medical book was at one time to be found in almost every home. The information it contained was sometimes of questionable value. Considering the almost universal interest in health and disease, it is timely that the old medical adviser is now being replaced with something in line with the advances of scientific medicine, simply explained, and this is what Dr. Fishbein has accomplished in this well indexed book of 900 pages. He did not write all of it himself. There are seven collaborators whose names are well known in medical circles. Among the subjects are: Choice of a Physician, First Aid, The Family Medicine Chest, Hygiene of Women, Care of Mother before and after Childbirth, Care and Feeding of the Child, Infant Hygiene, Prevention and Treatment of Infectious Disease, Respiratory Diseases, Diseases of the Heart and Circulation, Digestion and Digestive Diseases, Blood Pressure, Cancer; thirty-three chapters in all. This book in every home, provided it is read as it should be, will go a long way towards educating the public in the basic principles underlying sound medical care.

DR. COLWELL'S DAILY LOG FOR PHYSICIANS. A brief, simple, accurate financial record for the physician's desk published by the Colwell Publishing Company, not inc. Champaign, Illinois.

This is a complete yearly record with ample space for the busy general practitioner. Simply noting each item as indicated will insure the utmost accuracy, which needless to say makes income tax data readily available. It is essentially a day book for the physician with a varied practice. Provision is made also for a record of receipts and expenditures outside the practice. The "Log" is prefaced by full directions for its use.

### LABORATORY METHODS OF THE UNITED STATES

ARMY. Edited by James Stevens Simmons, B.S., M.D., Ph.D., Major of the Medical Corps, United States Army; Director of Laboratories, Army Medical Center; Director of the Department of Preventive Medicine, Army Medical School. Associate editor, Cleon J. Gentzkow, M.D., Ph.D., is major of the Medical Corps, United States Army; Chief of the Division of Chemistry, Army Medical School. Approved by the Surgeon-General of the United States Army. Fourth edition, greatly enlarged and thoroughly revised, published 1935. 12mo, 1110 pages, illustrated with 70 engravings. Limp binding, \$6.50, net. Lea and Febiger, Philadelphia.

This is a complete laboratory guide for students, general practitioners and clinical laboratories. It is of composite authorship, embodying the work of twenty army medical officers.

### OBJECTIVE AND EXPERIMENTAL PSYCHIATRY.

By D. Even Cameron, M.B., Ch.B. (Glas.), D.P.M. (Lond.). Physician in Charge, Reception Service, Provincial Mental Hospital, Brandon, Man.; formerly Assistant Physician, Glasgow Royal Mental Hospital; Assistant Resident Psychiatrist, Johns Hopkins Hospital, and Instructor in Psychiatry, Johns Hopkins University; Henderson Research Scholar, Volontairarzt, Stadt-sanstalt; Burghoelzli, Zurich. New York: The Macmillan Company, 1935.

The book is very much a correlation of the opinions expressed by many investigators and there is much of both direct and indirect quotation of the opinions of others. Both the adequacy and inadequacy of functional mental tests is discussed at some length.

The author discusses heredity as a predisposing influence toward mental characteristics and leaves the impression that much study is yet required to determine the influence of heredity.

He refers to several laboratory tests and gives his interpretation of their use in the consideration of mental conditions.

F. L. P.



## HOUSE OF DELEGATES PROCEEDINGS

## TABLE OF CONTENTS

## Monday Afternoon Session

September 23, 1935

	Page
Reading of the Official Call.....	698
Report of Credentials Committee.....	698
Roll Call.....	698
Seating of Delegates.....	698
Gavel used at meeting of the House.....	699
Welcome:	
Dr. F. C. Bandy.....	699
Mayor George J. Laundy.....	699
Address of the Speaker, Henry A. Luce.....	699
Address of the President, Richard A. Smith....	701
Address of the President-Elect, Grover C. Penberthy .....	702
Report of the Council.....	703
Reports of Standing Committees:	
Legislative Committee.....	706
Woman's Auxiliary Advisory Committee..	708
Radio Committee.....	708
Preventive Medicine Committee.....	708
Delegates to the A. M. A.....	708
Maternal Health Committee.....	711
Cancer Committee.....	711

## Monday Evening Session

September 23, 1935

Report of Credentials Committee.....	712
Roll Call.....	712
Seating of Delegates.....	712, 718, 719
Report of Committee on Economics.....	713
Report of Sub-committee on Post Graduate Medicine for General Practitioners.....	714
Report of Sub-committee on FERA Survey of Relief Committee.....	715
Report on Present Status of the Case of Afflicted Children in Michigan.....	718
Resolutions:†	
Legislative Committee.....	718; 726, 733
Establishment of Section on Radiology.....	719; 733
Transfer of Eaton County to 2nd District.....	719; 733
Inclusion of Benzie in Grand Traverse-Lee lanau Society.....	719; 733
Transfer to retired members roster of Dr. Arthur S. Rowley.....	719; 722
Appointment of committee to rate type and scope of insurance examinations.....	719; 733
Appointment of committee to investigate activities of Crippled Children's Commission .....	720; 733
Proposed changes in By-Laws, Duties of Officers .....	720; 736, 743, 745
Diversion of medico-legal assessment.....	720; 734
Amendment re eligibility of delegates for office .....	720; 735
Amendment re composition of Legislative Committee .....	721; 734
Admission of osteopaths to hospitals.....	721; 725
Appointment of Committee on Revision of the Constitution and By-Laws.....	720

## Tuesday Morning Session

September 24, 1935

Report of Credentials Committee.....	721
Roll Call.....	722
Seating of Delegates.....	722
Reports of Reference Committee:	
Miscellaneous Reports.....	722
Officers' Reports.....	722
Report of Council.....	723
Reports of Special Committees:	
Barbituric Acid Bill.....	724
Admission of osteopaths to hospitals....	725
Resolutions .....	726; 733
Standing Committee Reports.....	727
Cancer Committee.....	727
Preventive Medicine.....	727
Medico-Legal Committee.....	728
Maternal Health.....	728
A. M. A. Delegates.....	728
Auxiliary Advisory Committee .....	728
Radio Committee.....	728
Legislative Committee.....	728
Economics Committee.....	729

## Tuesday Afternoon Session

September 24, 1935

Reports of Reference Committee (Cont'd.):	
Resolutions:	
Legislative Committee.....	733
Section on Radiology.....	733
Investigation of Crippled Children's Commission .....	733
Benzie County Society.....	733
Rating of insurance examinations.....	733
Transfer of Eaton County to 2nd District	733
Constitution and By-Laws:	
Amendments re composition of Legislative Committee.....	734
Diversion of medico-legal assessment....	734
Eligibility of delegates for office.....	735
Proposed changes in By-Laws, Duties of Officers .....	736, 743, 745
Report of the Council (continuation).....	738
Suggestion that names of counties be included in program whether delegates' names have been received or not.....	738
Elections:	
President-Elect .....	738
Delegates and Alternates to American Medical Association .....	740
Councilors .....	741
Introduction of and Response by newly elected President-Elect, Henry E. Perry.....	742
Selection of 1936 meeting place.....	742
Election of Speaker of the House.....	743
Election of Vice Speaker.....	743
Motion for employment of executive secretary..	744
Nominations for Members Emeritus.....	744
Introduction of Proposed Amendments.....	745
Resolution of Appreciation to Hosts.....	746
Vote of Appreciation to Speaker.....	746
Vote of Appreciation to Secretary.....	746
Adjournment .....	746

†Page numbers for Resolutions following semicolon refer to reports on action taken on the resolutions.

# MICHIGAN STATE MEDICAL SOCIETY

## Seventieth Annual Meeting

September 23-24, 1935

Sault Ste. Marie, Michigan

### HOUSE OF DELEGATES

#### Monday Afternoon Session

September 23, 1935

The first session of the House of Delegates at the 70th Annual meeting of the Michigan State Medical Society, held September 23-26, 1935, at Sault Ste. Marie, Michigan, was called to order in the Ojibway Hotel Annex at three o'clock by the Speaker, Dr. Henry A. Luce, Detroit.

THE SPEAKER: Gentlemen, the time has now arrived for the opening of the first session of the House of Delegates.

Mr. Secretary, will you read the official call?

The Secretary, Dr. B. R. Corbus, Grand Rapids, read the official call as published in the September issue of THE JOURNAL.

THE SPEAKER: Dr. Switzer, Acting Chairman of the Credentials Committee, will you give the report of the Credentials Committee?

DR. L. W. SWITZER (Mason County): Mr. Speaker, the Credentials Committee wish to report a total of 45 delegates seated, which constitutes a quorum in accordance with the Constitution and By-Laws of the Society.

THE SPEAKER: Thank you, Mr. Chairman. If some member of the assembly will move that the report of the Chairman of the Credentials Committee be accepted as the roll call we can dispense with the third item of our program.

DR. C. S. GORSLINE (Calhoun County): I so move, Mr. Speaker.

The motion was seconded.

THE SPEAKER: It has been moved and supported that the report of the Credentials Committee be accepted as the roll call at the first session of this House of Delegates. Those in favor say "aye," those opposed say "no." It is carried.

The following delegates and alternates were present:

*Alpena County*—F. J. O'Donnell.  
*Barry County*—R. B. Harkness.  
*Bay-Arenac-Iosco*—L. F. Foster.  
*Berrien County*—W. C. Ellet.  
*Branch County*—R. L. Wade.  
*Calhoun County*—C. S. Gorsline.  
*Cass County*—W. C. McCutcheon.  
*Chippewa-Mackinac*—F. C. Bandy.  
*Clinton County*—Dean W. Hart.  
*Delta County*—J. J. Walch.  
*Dickinson-Iron*—E. M. Libby.  
*Eaton*—A. G. Sheets.  
*Genesee County*—C. F. Moll, F. E. Reeder and George Curry.  
*Grand Traverse-Leelanau*—E. F. Sladek.  
*Gratiot-Isabella-Clare*—William Barstow.  
*Houghton-Keweenaw-Baraga*—Alfred LaBine.  
*Huron-Sanilac County*—D. D. McNaughton.  
*Ingham*—L. G. Christian and Karl Brucker.  
*Ionia-Montcalm*—J. J. McCann.  
*Jackson*—James O'Meara and Philip Riley.  
*Kalamazoo-Allegan-Van Buren*—F. T. Andrews and R. G. Cook.  
*Kent County*—C. F. Snapp, H. J. Pyle, A. V. Wenger and J. D. Brook.  
*Lapeer County*—D. J. O'Brien.  
*Livingston County*—Harry G. Huntington.  
*Luce County*—R. E. Spinks.  
*Manistee County*—A. A. McKay and Kathryn Bryan.  
*Marquette-Alger*—Vivian Vandeventer.  
*Mason*—L. W. Switzer.

*Mecosta County*—Gordon H. Yeo.  
*Monroe County*—D. C. Denman.  
*Muskegon*—Roy H. Holmes.  
*Newaygo County*—Oscar D. Stryker.  
*Northern Michigan*—Fred C. Mayne.  
*Oakland County*—Frank Mercer.  
*Osego-Montmorency-Crawford-Osceola-Roscommon-Ogemaw*—C. R. Keyport.  
*Ontonagon*—C. F. Whiteshield.  
*Ottawa*—A. E. Stickley.  
*Saginaw*—A. R. Ernst and Ralph S. Jiroch.  
*St. Clair*—A. L. Callery.  
*Shiawassee County*—I. W. Greene.  
*Tuscola*—O. G. Johnson.  
*Washtenaw County*—John Wessinger, Dean W. Meyers and John Sundewall.  
*Wayne County*—C. F. Brunk, T. K. Gruber, Louis J. Garipey, John L. Chester, A. F. Jennings, A. E. Catherwood, H. F. Dibble, W. D. Barrett, C. E. Umphrey, H. Wellington Yates, R. C. Jamieson, Wm. J. Cassidy, Ralph H. Piro, L. T. Henderson, L. O. Geib, Wm. J. Stapleton, Jr., Fred B. Burke, Stanley W. Insley, Basil L. Connelly, M. H. Hoffmann, R. V. Walker, C. K. Hasley, Frank Kilroy, W. L. Van Duzen, E. D. Spalding, L. J. Hirschman, Joseph H. Andries, H. W. Plaggemeyer, Frank A. Kelly, W. R. Clinton, J. M. Robb, R. M. McKean, Hugo A. Freund, David I. Sugar, J. E. Davis, George L. Woldblatt, C. L. Straith and Robert A. MacArthur.

THE SPEAKER: The Speaker would recommend that in view of the small attendance and other matters which have unavoidably detained some members, this body recess for ten minutes.

DR. KARL BRUCKER (Ingham): I so move.

The motion was seconded by Dr. John Wessinger, Washtenaw, and carried, and the meeting recessed at 3:03 o'clock. It reconvened at 3:15 p. m., the Speaker presiding.

THE SPEAKER: The House will come to order at the close of the recess.

THE SPEAKER: Has the Chairman of the Credentials Committee any further report to make?

DR. L. W. SWITZER (Mason): The Credentials Committee reports that a total of 64 delegates have been registered, and wishes to ask the House to pass on whether the five delegates certified by letter or telegram may be seated.

THE SPEAKER: Will you read the letters? We will take each one up separately.

DR. SWITZER: The first is Dr. E. M. Libby of Dickinson-Iron.

Dr. Switzer read the letter of certification.

DR. L. J. HIRSCHMAN (Wayne): I move that he be seated.

The motion was seconded and carried.

DR. SWITZER: Next is Dr. J. J. McCann, delegate from Ionia-Montcalm Medical Society.

Dr. Switzer read the letter of certification.

DR. I. W. GREENE (Shiawassee): I move that Dr. McCann be seated.

The motion was seconded by Dr. James O'Meara, Jackson, and carried.

DR. SWITZER: Alfred LaBine, delegate from Houghton-Keweenaw-Baraga.

Dr. Switzer read the letter of certification.

DR. C. F. WHITESHIELD (Ontonagon): I move he be seated.

The motion was seconded by Dr. C. S. Gorsline, Calhoun, and carried.

DR. SWITZER: Dr. Harry Huntington, of Livingston County.

Dr. Switzer read the letter of certification.

DR. JOHN WESSINGER (Washtenaw): I move that he be seated.



The motion was seconded by Dr. L. G. Christian, Ingham, and carried.

THE SECRETARY: Mr. Speaker, I hold in my hand the accredited registration slips of 64 delegates. I suggest that a motion be made whereby this constitute the roll call for this session, and others as they come in be added to the roll call.

DR. WM. J. STAPLETON, Jr. (Wayne): I so move.

The motion was seconded by Dr. W. C. Ellet, Berrien, and carried.

THE SPEAKER: The Speaker wishes to make a few preliminary remarks. The order of business for the first session is on this blackboard. Under paragraph 7, Reference Committees have already been appointed and their names and the chairmen of the respective committees are on the blackboard on the opposite side of the room. If the chairmen of the respective committees will determine the members of their committees who are absent and submit names to the Speaker that they wish substituted for the absentees, that will be done, and the chairmen of the respective committees at the adjournment or recess of this afternoon's meeting will announce the time and place at which their committees will meet.

DR. C. S. GORSLINE (Calhoun): Would it be out of order if we might take a moment and have the roll call on those names of committees, that we might know who is present and who isn't?

THE SPEAKER: The Speaker will accept that suggestion and the chairmen of the committees will call the roll of the committees and check off those who are absent.

Roll call of committees and substitutions for absent members.

THE SPEAKER: In the proceedings connected with this House of Delegates there is an interesting fact that I wish to call to your attention. The gavel which is used is being returned to the Upper Peninsula for the first time since 1916. The gavel was presented to the Michigan State Medical Society at the meeting in Houghton in 1916 and was presented to the Michigan State Medical Society at Houghton that year by Dr. E. T. Abrams. On the side of the gavel the following names are inscribed: (At the time this gavel was presented the President of the Society was the Chairman of the House of Delegates by virtue of the Constitution at that time.) Somewhat with a sad heart your Speaker reads the first name, A. W. Hornbogen, 1916. A. P. Biddle, 1917. A. H. Hume, 1918. C. H. Baker, 1919. Angus McLean, 1920. W. J. Kay, 1921. W. T. Dodge, 1922. Guy L. Connor, 1923. C. C. Clancy, 1924. J. E. King, 1925-26. W. K. West, 1927. H. R. Carstens, 1928. H. J. Pyle, 1929-33. H. A. Luce, 1934-35.

At this time your Speaker would like to introduce the Chairman of the local committee, who in turn will introduce to you the Mayor of the City of Sault Ste. Marie. (Applause)

DR. F. C. BANDY: Mr. Speaker and Members of the House of Delegates: I want to introduce to you Mayor George J. Laundy, who will give you the official welcome to Sault Ste. Marie. (Applause)

HONORABLE GEORGE J. LAUNDY: Mr. Speaker, Distinguished Guests, Gentlemen: Ordinarily one does not grow enthusiastic about having to see the doctor, but I am happy to see so many big medicine men here today. Our citizens feel very proud that you should have chosen this city in which to hold your convention, and I am very much pleased that so many of you came.

This morning while talking with a lady I remarked: "I wonder where all the doctors come from."

She said, "Mr. Laundy, that is not half so interesting as to try to figure out where all the doctors finally go to." (Laughter)

I consider it a great honor and a delightful privilege to welcome the Medical Society of the State of Michigan to this city. I trust that you will enjoy every minute of your stay while here and that we may hope to see you back again soon. (Applause)

THE SPEAKER: The Speaker would like at this time to have the pleasure of introducing the Vice Speaker, Dr. Frank E. Reeder.

THE VICE SPEAKER: I think, members of the House of Delegates, that at this time it is altogether fitting and proper that I should say a word concerning your Speaker. A year ago, as you remember, I introduced him, and it apparently had no effect upon him, because during his labors of the past year he certainly has not improved any—he could not have worked any harder. He has given tirelessly, ceaselessly, of his time and his efforts, and I feel that he has done every duty under the requirements of his office. So at this time I am happy once more, after he has had a moment's rest, to again present to you and beg you to listen to the annual address of your Speaker, Dr. Henry Luce.

THE SPEAKER: Mr. Vice Speaker, before launching into this speech I would like to announce that any remarks that may be in the Speaker's address must have no personal significance to any doctor present. Any suggested criticisms which may be evident in the address are against principles and not against individuals.

The Speaker, Dr. Henry A. Luce, read his address.

### The Clinical Viewpoint on a Very Sick Patient

HENRY A. LUCE, M.D., F.A.C.P.

Your speaker would like to depart from the routine type of addresses which have been customary and instead would like to conduct a Clinical Conference. In a sense, we can consider this portion of the session of the House of Delegates of the Michigan State Medical Society as a clinical conference on the practice of medicine.

To be more specific, let me present, for a case demonstration and study, a very well known and beloved patient, whom I will designate as Mr. Private Practice. Little argument has ever been presented against the value and the importance of preserving the life of this theoretical patient. In fact, he is almost universally accepted as the most valuable component in the administration of medical service. The principles involved in his care are the fundamental precepts of American institutions and principles of government.

Like most clinical cases this patient has arrived at the present state of illness partly by reason of environmental conditions and partly from inherent weakness. The disturbance in individual relationship between physician and patient is only a phase of the social changes and upsets that have been and are taking place in society at the present time. Many of these changes must be viewed with alarm. By not a few have they been termed as demoralizing and destructive. This phase of social change may be designated as one of individualism vs. communism. No plan of distribution of wealth nor political device will ever act as cure-all.

In order to arrive at a correct conclusion relative to this patient's condition, let us look at some of the clinical symptoms which are manifest in the case. When I approached this patient's problem, I had all the enthusiasm of a first year medical student. Clinical facts relative to him were not so easily obtained as one might think. A great deal of time was expended in securing only a minimum amount of evidence and I regret that I obtained relatively few facts. It is interesting to note the difficulty one experiences in obtaining recent statistics. In a letter from the Secretary of the State Hospital commission, he writes: "The last statistical report

published by the state of Michigan relative to the care of the mentally sick was in 1918."

Those who have the actual statistics were as reluctant to divulge them as the ordinary patient is to confess his indiscretions or to reveal the various mental conflicts which obscure his clinical picture. From two to five letters were necessary in every case to arrive at figures that were even approximately correct and in many cases not even the courtesy of an evasive reply was forthcoming. Many elaborate reports published at state expense are more laudatory of the work of the respective departments than a statistical report of the amount of pilfering that is done at the expense of the private practitioner of medicine. Your speaker has been extremely depressed by meagerness of the facts elicited; he can foresee a pathological conference on the patient unless heroic measures are instituted.

Let us note briefly some of the clinical facts relative to the extent of practice now assumed by the state and other organizations, in the medical care of the citizens of this commonwealth. Through a succession of far-reaching laws with ever widening scope, the state and federal governments have assumed responsibility for many and diverse types of medical care, supplanting traditional methods. Some are necessary but appear to extend their scope beyond the bounds of necessity, while others are of doubtful social and economic value.

There are over 70 hospitals and sanitariums in the state of Michigan completely under control of federal, state, county or municipal authority. Five of these hospitals have a total bed capacity of 5,039 with an average, in the last complete report, of 4,212 patients daily and a total of 65,387 admissions reported for the last fiscal year. In addition to this there are many ambulatory cases treated which are not included in these figures. For the fiscal year of 1933-1934, the University of Michigan Hospital reported 161,244 outpatient visits. Of this number 117,770 were classed as non-residents, meaning, presumably, out-state patients.

At the end of June, 1935, the total number of inmates of State Hospitals for the mentally ill was 10,356, for whose care 1,756 persons were employed. To this total number of patients must be added 2,488 who were state patients at Eloise Hospital. The mental hospitals also carry on weekly clinics in other cities, to which Probate Courts, social workers and sometimes local physicians send cases. For example, Owosso is served from Pontiac, St. Joseph from Kalamazoo, Midland from Traverse City, while many other localities are similarly served.

State participation in the care and treatment of tubercular cases can be visualized by the total numbers of 2,885 beds especially devoted to these cases. In addition to this, home visits by nurses paid by the state are extensively made. In the Detroit area alone 114,206 home visits were made by city employed nurses.

The Marine Hospital in Detroit, a United States Public Health institution, representing a capital investment of nearly a million and a half with an operating cost of \$181,747.88 for the fiscal year 1935, has a bed capacity of 240 beds with a daily average of 148 devoted exclusively to free treatment for certain types of cases. At the present time it is anticipated that the facilities of this hospital will be available to the employees of the PWA.

The Veterans' Hospital at Battle Creek has a bed capacity of 835 and a new Veterans' Hospital is planned for the Detroit area.

Lack of time permits only casual mention of prenatal and infant welfare clinics. In the Hernan Kiefer Hospital of Detroit in 1934, there were 1,568 babies born; 4,869 pregnant and 328 non-pregnant women attended prenatal clinics and 4,818 babies and 9,204 pre-school children attended child welfare

clinics. It is reasonable to conclude that a similar percentage would apply to the whole state.

School health service has increased by leaps and bounds. An interesting phase of the socialization of medicine is the Health Services of Universities and Colleges. Six out-state institutions, Detroit is excluded, had in 1931 and 1932 a total of 15,934 students eligible for health services. In some cases employees and faculty are included. These students return to their respective positions in local communities with the seeds of socialized medical service planted in their minds.

Under the Workmen's Compensation law of the state of Michigan for the fiscal year ending June 20, 1934, there were 18,465 cases of compensable accidents which passed through and were adjusted by the Department of Labor and Industry. There is no statistical report on the non-compensable accidents. In a letter from the Secretary of the Commission, he states: "It may be estimated that upwards of 250,000 of such reports are filed annually." It is impossible to get even an estimate of the number of gallons of iodine and mercurochrome used by nurses and first aid men or the millions of acetylsalicylic acid tablets dispensed without the supervision of a physician. This is not reported as an adverse criticism of the principles of the service, but only as a clinical evidence of a profuse hemorrhage from our patient, Mr. Private Practice.

The establishment of hospitals and first aid stations in large department stores and office buildings has resulted in much trauma to our patient. Health and physical examinations of large industrial groups by other than the physician of choice has been of doubtful curative value to this same patient. All municipally owned transportation systems and public utilities have elaborate medical and surgical services built upon a foundation of socialized medicine. Members of fire departments, police organizations and many members of public school systems are almost exclusively cared for by socialized medical service. In other words, members of our profession, particularly in the large cities, not only are taxed to provide salaries for these public servants but are likewise taxed to provide medical care.

Enumeration of the lesions and clinical symptoms of our patient is almost too detailed for the time permitted. With great respect for the amount of work that has been done by our Medical Economics Committee, your speaker has often thought that a survey of the detours from the private practice of medicine might well be made.

General Hospitals by the indiscriminate employment of lay technicians, laboratory workers, x-ray mechanics and non-medical anesthetists and in some instances doctors on full time salaries are contributing to the disintegration of the traditional physician-patient personal relationship. The public is rapidly becoming institution and organization conscious. Patients go to one of the largest private hospitals in the state, not because they know the name of a single doctor, but because the hospital is controlled by a successful industrialist and they, therefore, conclude that good medical service must be obtainable at this institution.

The interference with the private practice of medicine by foundations and private philanthropic agencies is mentioned here without comment upon the scope or nature of work being done.

The current unemployment emergency has given governmental agencies abundant opportunity to provide state medical and surgical services. The paternalistic attitude has developed to such a degree that enormous numbers of people are being taught to depend upon the lavish hand of the government for all of the necessities of life. It is only a short step to the administration of health services from federal sources.



One can easily visualize increasing difficulty for the taxpayer, if the state increases its public medical care. The taxpaying citizens of Michigan now pay \$1.00 out of every \$4.00 collected in taxes for interest on the past indebtedness of this state and the total debt of the various municipalities and state approximates close to three-quarters of a billion dollars. The state's responsibility for the care of the tubercular, the mentally ill, the crippled child, the afflicted child and the afflicted adult, the venereal case, the unemployed, the part time employed, etc., is becoming a problem of far-reaching significance. Can the taxpayer stand the burden? Intensive study must be given to avoid a taxpayer's bankruptcy. A nationally advertised article has attracted much attention by the slogan, "One out of every five has it." One out of every six is now on some governmental payroll. With the increase of public medicine one can foresee a further increase of governmental employees. The state has no money except that which comes from the taxpayer. An increase in public medicine goes hand in hand with paternalism. Are we desirous of a change in our social formation? State intervention into the realm of individual responsibility is fraught with the danger of absorbing one of the most effective means of advancing community welfare.

On the other hand, unless the physician is paid a living wage for his services, there will be a decrease in the quality of medical service.

The purpose of this clinical presentation has been to stimulate the interest of this House of Delegates in the severity of the malady which is affecting the private practice of medicine and which involves that axiom so often uttered, "The patient must have free choice of physician." It must not be construed as a blanket criticism of the situation that exists. Some systems of collective practice are necessary and these facts must be faced. The duty of this House of Delegates is to face the issues squarely and attempt to direct and guide the course of events in so far as possible. Remember always, however, to keep in mind as an ultimate goal the highest type of medical service at a minimum expenditure.

At the beginning of this conference it was called to your attention that two factors were concerned in the etiology: namely, environmental conditions and inherent weakness. Environmental conditions change rapidly and can be treated as necessity arises. Inherent weakness requires courageous treatment. We should be big enough to recognize and admit our weakness. As Shakespeare made Caesar say, "The fault, dear Brutus, is not in our stars, but in ourselves, that we are the underlings."

Much of the trouble that afflicts the private practice of medicine can be blamed squarely on the doctors themselves. Hundreds of concrete examples will occur to you, if you give it a little thought. Furthermore, medical organizations are pitifully inefficient except along scientific lines.

You have a very sick patient on your hands. You will need your utmost skill and judgment to restore this case to activity and retard the progress of the malignancy. Resolutions and fine sounding phrases will not be adequate treatment. You can go back over the records of our society for the past 20 years and find them full of beautifully worded resolutions and pompous prolixities, the principles of which have never been energetically administered to the patient, Mr. Private Practice. A definite and organized course of treatment must be pursued. The treatment may be painful to some of the medical profession to administer, but desperate cases require heroic treatment. Those intangible forces and ideals which have vitalized America have been kept alive by the medical pro-

fession of this country to a greater degree than by any other group. Your speaker hopes that the same courage which characterized Vesalius, Paré, Pasteur, Lister, McDowell and thousands of others, will be manifest in your deliberations and actions. He hopes that you will operate and prescribe with the same sublime faith in the traditional precepts of medicine as that faith shown by Constantine The Great, in The Cross and its message "In hoc signo, vinces!"

May you go forth with traditional axioms and conquer! (Applause)

**THE VICE SPEAKER:** The Speaker's address will be referred to the Reference Committee on Officers' Reports.

**THE SPEAKER:** The next order of business is the President's address, by Dr. Richard R. Smith, Grand Rapids.

The President, Dr. Richard R. Smith, read his address.

### Address of the President

RICHARD R. SMITH, M.D.

Two years ago you did me the honor of making me President-Elect of this society. It is an honor that I have deeply appreciated and one for which I wish again to thank you. With the constitution and by-laws as they now are—and I think the arrangement a wise one—the President is expected to follow closely the affairs and the problems of the society and to speak for the Society at large on necessary occasions, and by his influence to direct or help direct its important affairs as he thinks the society at large would wish. With the high standards of ethics and deportment which prevail with the great majority of the profession of Michigan, there has been no difficulty in doing this. I conclude my term of office with a greater regard for organized medicine—great as that has always been; at the same time I am concerned over some of the tendencies that I have seen. Under the circumstances I think it well that I should state certain convictions that I have and that I know are shared by many.

I think we must hold always before us the fact that we are essentially a scientific body of professional men, and that whatever other objects we may have—and we may properly have several—the essentially scientific character of the society should not be lost sight of. As a group of scientific men we will contribute in every way we can to the elevation of the standards of practice and will respect efforts that are being made by the public and our teaching institutions to do the same thing. There seems to be some danger of losing sight of this viewpoint.

I have been much impressed with the political structure of our organization—the A. M. A., the state societies and the county units. It is a democratic organization and its constitution and by-laws are aimed to place the control of its affairs safely in the hands of the profession at large, and to guard against any group of men or clique, however reasonable their program may seem, from obtaining permanent control of its affairs. The constitution provides that this House of Delegates shall outline the policies to be followed by the Council and officers, and that during the year they shall follow what they believe to be the sense of this body, and not overstep their authority. You are elected by your various county units and are the supreme body in this organization, and what you do is therefore of the greatest importance. It is your duty, it seems to me, to insist that the plan of government, as clearly outlined in the constitution and by-laws, should be followed until you choose to change it. I want

to congratulate your Council this year for having strictly followed what they believed to be the intention and motives of this body. The results of its deliberations have reflected a close adherence to the Constitutions and By-laws and the best ideals of our profession.

I have a most profound admiration for the work of Dr. Corbus, your secretary, this year. It has been perhaps a particularly difficult year, but with him in office the affairs of the society have been most successfully conducted. I would ask for Dr. Ekellund, your next secretary, your hearty support and cooperation. The duties of the secretary are, as you know, multitudinous and require not only a good executive and detail man, but a doctor with a doctor's viewpoint. Our financial affairs, thanks to Dr. Corbus, are in excellent condition, but require constant watching. What it is going to cost must be considered in every new venture. It would not be difficult to seriously embarrass the society by extravagance. Thanks to Dr. Dempster and Dr. Corbus the State Journal is one of which we may be proud—there is no better in the country.

In the field of economics we have seen this year some important changes. Federal control of practice, which a year ago was uppermost in our minds, has, temporarily at least, retired to the background. The situation today is so complicated and the changes have been so rapid that I would ask each of you to give the report to the Economics Committee particular attention. There has been some confusion this year based upon ignorance of the facts.

The work of the standing committees this year has been, on the whole, excellent. I cannot refrain from speaking especially of the work of the Cancer Committee in their program of public education.

You are here to review the work of the year and to formulate policies and a program for the next. In this you have my best wishes. I have confidence that the results of your deliberations will be sane and in the best interests of the medical profession and the people of Michigan. (Applause)

THE SPEAKER: The President's address will be referred to the Reference Committee on Officers' Reports.

The next order of business is the address of our beloved President-Elect, Dr. Grover C. Penberthy, Detroit.

Dr. Grover C. Penberthy read his address as President-Elect.

### Address of the President-Elect

GROVER C. PENBERTHY, M.D.

Mr. Speaker, Officers of the State Society and Members of the House of Delegates:

It has been my privilege and opportunity, as President-elect this past year, to become more intimately acquainted with the affairs of the Society. As an ex-officio member of the Executive Committee of the Council, I have been impressed with the fact that to be an officer carries a great responsibility. It cannot be considered as just holding an honorary position.

The problems that confront the Council and Executive Committee of the Council are many and you have all had an opportunity of reading the minutes of these meetings.

The House of Delegates is the governing body of the Society and meeting for one day seems inadequate time to conduct the business of the Society and outline plans of attack and defense, which will be for the best interest of organized medicine, especially in these rapidly changing times. The Council and the Executive Committee of the Council

must then function for the remaining 364 days. This means a great responsibility for this group.

It is very apparent that in the past years a challenge has been thrust at organized medicine. The doctor will meet this challenge and give to the people the highest quality of service which he is capable of rendering. It involves the medical profession in general. To meet this challenge and act, as well as represent the Society, falls on the shoulders of the House of Delegates, who meet but once a year. Is it humanly possible to anticipate the future and can the Society continue to function for the best interest of all concerned with the present plan of operation?

Many problems and troubles confront the profession and some of the factors leading to them may be: (1) Conditions have changed; (2) Problems have grown up around us; and (3) We, in a measure, may be responsible for some of our difficulties. Many who have been successful have, perhaps, not been properly interested to assume leadership. It may be that some of our difficulty arises from the fact that we are a cosmopolitan group working under different economic conditions and in different localities.

It can be said for the profession through the state that the meetings pertaining to economic problems last year were well attended. This should be interpreted as a healthy sign and should be productive in helping to solve some of our difficulties. It is my hope that the thinking group will continue to manifest interest and become larger so that the action of the immediate future, with what has been accomplished, may lead to some plan which will show mature judgment and not be founded upon prejudice or emotional reasoning. This is a duty we owe to the public.

A conservative plan for good medical service for all classes must be evolved, which means the full cooperation of the profession. Any plan that may appear attractive should be referred to the medical profession for advice and any legislation pertaining to the health of the people should be referred to that body because of their education and training.

The economic problem has been referred to because for the present it occupies an important part of our interest and its solution, or adoption of any plan or plans, rests with the House of Delegates. The Committee on Medical Economics has devoted much time, energy and thought to this problem.

The problems to which must be given thought and consideration are many, but, as mentioned before, how can the House of Delegates in session one day, the Council meeting twice a year and the Executive Committee of the Council meeting from time to time, adequately act to solve our difficulties and at the same time satisfy the membership of the State Society? The committees appointed from year to year and section officers have served conscientiously and faithfully and each has fulfilled his duty unselfishly. It is hoped that these members will continue to serve the Society, but with the responsibilities increasing, should there not be better coordination? A committee appointed to study the economic problems should, for instance, be closely allied to the legislative committee. This may also be said of other committees. To correlate the activities and work in the most efficient manner it would seem that the various chairmen of committees should meet through the year with the Council and Executive Committee of the Council. It is true some committees have met with the executive committee. At present the chairmen report to the House of Delegates and to the Council at the January meeting. This thought is not prompted with the idea that more be expected of these gentlemen who give freely of their time and energy, but with the responsibilities entrusted, from an organized



business point of view, closer coöperation would be more advantageous.

It may be necessary to consider adding to our committees and some of you may have given thought to this exigency. An additional committee that may be considered is one which could assist in working with and correlating the activities of those interested in that branch of preventive medicine, which pertains to mental hygiene. This branch of medicine is rapidly growing and it would seem that the profession should take an active part. The field not only includes the care of the insane, but the delinquent and mentally sick.

The crippled and afflicted child, the afflicted adult, those on direct relief and WPA, may be considered as calling for another committee, which could act for the society in conjunction with the crippled children's commission, welfare groups, and government agencies. Problems developed that could very amicably be handled and proper thought and consideration to this activity could thus be given, eliminating some of the misunderstanding that may now exist.

It would seem advantageous to have a joint committee made up of members of our Society and the State Bar Association; the Michigan State Hospital Association; and a similar committee made up of members of the State Dental Association, the Nurses' Association and Pharmacists. At the present time there is a committee known as the committee on public health education. This committee serves a purpose, but, to work with it, a committee known as the public relations committee could very well function and serve the Society.

The activities of the Society and what is expected of the officers develop a real program. The Council, at the January 1935 meeting, approved the appointment of an executive secretary and it is the hope of your incoming President that this appointment can soon be made. The work and the responsibilities of the Society call for additional help. Our present medical secretary has performed his duties efficiently and faithfully. For twelve years he served the Society as a member of the Council, six of which as chairman, at a great personal sacrifice. I regret seeing Doctor B. R. Corbus relinquish this responsibility. His counsel has been wise and I know of no one who has had the interest of the Society more at heart. The incoming medical secretary, Doctor C. T. Ekelund, is acquainted with the responsibilities that go with the office and I feel confident that he will make every effort to serve the Society in an efficient manner. This duty will be no easy task, but with an executive secretary under him, who has had experience in medical activities and has a thorough understanding of the present day trend and needs, giving full time and undivided attention to carrying out the policies of the Council and its Executive Committee, Dr. Ekelund's burden will be considerably lessened.

In conclusion: I am conscious of the honor you have bestowed upon me and all the friendship and confidence demonstrated, but at the same time I am more deeply conscious of the responsibilities which the office entails and it is my hope that, throughout the coming year, I shall receive your steadfast loyalty, coöperation and guidance. I thank you. (Applause.)

**THE SPEAKER:** The speech of the President-Elect will be referred to the Reference Committee on Officers' Reports, of which Dr. Curry is Chairman.

The next order of business is the annual report of the Council, by the Chairman of the Council, Dr. Julius Powers, Saginaw.

Dr. Julius Powers read the report of the Council.

## ANNUAL REPORT OF THE COUNCIL

To the House of Delegates:

The Council transmits this as its annual report to the House of Delegates. As is customary, it is presented in a summarized form. Its official actions are recorded in the JOURNAL in complete form.

### Membership

On January 1, 1935, there were 3,393 members in good standing, a gain of 233 members over the previous year. On September 1 members in good standing numbered 3,468, which has been increased in the last few days to 3,498. This is an increase of 336 members over a year ago and an increase of 105 members since our January report, altogether a most satisfactory record.

### Finances

The official audit at the close of the year 1934 showed a Present Worth of \$12,207.91. This represents a most satisfactory increase over the previous year but was largely due to an increase in the value of our securities. We had Cash on Hand as of September 15, \$10, 932.06.

The payment of dues by the members has been more prompt this year than for several years past. We cannot then expect any material amount coming in from dues from now on. There will be some income accruing from the sale of advertising and a certain number of Bills Payable but the Cash on Hand will decrease month by month as the expenses of the Society are carried, but we should have enough to carry us through until the dues begin to come in next spring.

Our liabilities are limited to the current expenses of this past month, together with an obligation to the Bruce Publishing Co. for the publication of the "Medical History of Michigan." As you know, this excellent Medical History came out at a most unfortunate time in the midst of the depression, and the sales did not at all come up to our optimistic expectations. There has been a loss in the publication of this history of approximately \$3,200.00. The Bruce Publishing Company have expressed their willingness to make a settlement with us for one-half of the amount, that is they have expressed their willingness to share the loss equally with us and payment has been so ordered.

We are, at the moment, well within our budget. With the activities of our organization multiplying year by year, it must be expected that expenditures will parallel this increase. Michigan has taken an outstanding position among state societies as a most forward looking organization. We know of no state with activities approaching ours whose dues are so low. With but \$5.50 allotted for all society activities, the fact that we have in the past several years successfully carried on such varied activities is indicative of good business management.

The Council, as in the past, has willingly made liberal appropriations for Committee Expenses. It realizes that Committee members have given liberally of both their time and their energy, and that they should not be asked to go into their own pockets for expenses. The Council, however, requests each Committee Chairman to bear in mind the fact that funds are limited and requests that expenditures be held down as low as is consistent with productive work.

### Post-Graduate Education

Since the inauguration of the conjoint State Society and University of Michigan program in 1928 over two thousand physicians have taken one or more courses. There remain, however, many who have not been reached and it must remain our obli-

gation to attempt to reach every member of this society.

We believe that Michigan has made, and is making, an outstanding contribution in the field of post graduate medical education. During the past year as the result of carefully conducted preliminary studies, a program for the continued education of general practitioners was conducted in selected population centers of the state. The excellent response indicates definitely that physicians in general practice will continue their medical education if sound courses are made available to them. The addition of three new centers in the program for this coming year, making six in all, makes it possible for every member of the Society to take one of the intensive courses with a minimum amount of inconvenience and expenditure of time.

The report on Postgraduate Education prepared by the Committee on Economics supplements most satisfactory the earlier studies of this committee and the report on the Survey of Medical Services and Health Agencies. In order to stabilize postgraduate education and establish it as a continuous effort in the life of every member of this Society, the special sub-committee of the Economics Committee (C. G. Jennings, J. E. Davis, R. D. McClure) will present to the House of Delegates for its consideration certain recommendations based on its studies and the experience of the past several years. The Committee believes that the acceptance of these recommendations should lead to a great advance in this most important activity.

### The Journal

The Council has always taken great pride in the JOURNAL. We feel certain that you feel as we do, that there has been a continued improvement from year to year and that this year the general arrangement of the JOURNAL has been much improved and that its scientific articles have been noteworthy. Compliments on the JOURNAL, its material and its makeup, have come to us from various parts of the country. You will have noted that the pages of reading matter have increased on an average of six pages per issue, and the number of advertising pages by something over three pages. You will have noticed, too, that there has been very little of so-called "filler" material used, and that there has been a general tendency to make the contents more compact. The increase in the number of departments will enable you to more easily turn to the subject in which you may be especially interested. There is no dearth of good scientific articles, and if you will only be more liberal in patronizing, or even just writing our advertisers, we will assure you a better and larger JOURNAL. The increase in the size of the JOURNAL is quite dependent upon the amount of advertising that we get, so please bear this in mind. The more patronage, the more advertising, and the more advertising copy, the larger the JOURNAL.

### Medico-Legal Defense

Last year the allotment made to our Medico-Legal Committee did not cover the expenses of the defense of members. Fortunately, we have always our reserve. So far this year we have been more fortunate. It must be expected that, in times of depressions, suits against the doctor, most of them unfounded, will occur. The best protection that we have against all suits, whether they have a true basis or are just a species of blackmail, is first, of course, good medical practice, and, second, good organization. That County Society which has a good organization, a friendly spirit and a desire to work together has few malpractice suits.

The JOURNAL has taken great pleasure in publishing during the year a long report by the Secretary of the Medico-Legal Committee and the Council has

directed that there be sent from time to time special articles on the subject to County Secretaries.

With the September issue of the JOURNAL a new department is established under the heading "Medical Legal Department," under which, from time to time, will be published pertinent articles bearing on this subject.

### Economics Committee

The Economics Committee will present to the House of Delegates an exhaustive report which should be of great interest. It represents a large amount of work and will be concerned largely with the survey of the relief work of the State made by the FERA, together with an evaluation of this survey made by a Sub-Committee of the Economics Committee and concurred in by the parent Committee.

### General and Legislative

The Council and its Executive Committee have been alert to the many different activities in state and federal government which directly and indirectly affect the medical profession. The Legislative Committee in its report to the House of Delegates will note that through its efforts an amendment to the Afflicted Child Act was passed at the last meeting of the Legislature and signed by the Governor. It provides a "reasonable" fee to the doctor taking care of these children. Unfortunately no appropriation accompanied this bill. The Legislative Committee felt that the principle of payment to the doctor contained in the bill was in itself of such importance that it was unwise to jeopardize the passing of the bill or the signing of it by insisting upon an appropriation to cover the cost of operation.

This matter has greatly disturbed your Council. By direction of the Chairman, appointed members of the Executive Committee have met at different times with Crippled Children's Commission and the Auditor General. Earnest efforts have been made to seek some solution to this very serious question but so far without avail. At an augmented Executive Committee meeting held on August 1, the Executive Committee took action affirming the Fee Bill accepted some years ago by joint action with the Crippled Children's Commission. This Fee Bill is known as Schedule A, and should, in the opinion of the Council, be the minimum amount the Society should accept as a "reasonable" fee under the terms of the Act. The Council or its Executive Committee has, at no time, sanctioned any further reduction in fees.

In the editorials which have appeared in the Journal, in the transactions of the Executive Committee and, in particular, in the report of the Sub-Committee appointed by the Economics Committee to look into this matter you have found complete detailed account of the situation to date. Briefly, the Crippled Children's Commission will have expended the entire appropriation for both the crippled child and the afflicted child by the time this is presented to you. Representatives of the Council have met with the Finance Committee of the State and the Crippled Children's Commission and the matter was directed to be presented to the State Administrative Board. We regret to say that the Finance Committee is not optimistic of this approach, but we have been endeavoring to obtain such a conference. Since the hospital organization is equally interested with us, we have been in contact with them. With public opinion responding to this very serious condition of affairs, so vitally affecting the health of the children of the state, it is not impossible to look forward to a special session of the legislature.

The Council requests that the House of Delegates make itself clear as to its desires in these



controversial matters associated with the Afflicted-Crippled Children's problem in order that the Council and its Executive Committee may act in full accord with the wishes of the Society. With these desires expressed the Council will empower its Executive Committee to maintain as close a liaison as possible with all officials of the state and bodies concerned with the operating of this Act to the end that the position of the Society shall be clearly stated and so far as possible our objectives attained.

With concern, the American Medical Association and this Council has watched the federal legislation and in particular the Social Security Bill. However, the health program which concerned us so much last year was not incorporated in the Act and the Act as passed does not directly concern itself with the care of the sick. Indirectly it would seem that within the Act there are many possibilities of activities which may, in greater or less degree, affect the profession. We regret that the last minute Senate filibuster prevented an appropriation, a part of which this state expected for special health work and for work with the crippled child. See the September Journal under "State Health Department."

Representatives of the Council have from time to time met with the State Emergency Relief Commission with the result that many confusing and irritating problems were ironed out. Close contact has been kept with the SERA throughout the year and our relations have been most satisfactory.

As the employables are taken from the relief roll new problems of great concern present themselves. Without reserves it is manifestly impossible for a family whose wage earner gets but fifty dollars a month to care for the emergency of sickness and most of that burden will most certainly be placed upon the physicians. There does not seem to be a disposition in the Federal Government to provide for the emergency.

We have recently received from the A. M. A. this telegram:

Dr. B. R. Corbus  
313 Metz Bldg.

"Information from Washington that it is intention of administration to discontinue all federal direct relief including medical relief on November 1 and that it is assumed by administration that state relief agencies will continue some medical relief financed from state funds Stop hope to secure additional information for transmission to state secretaries within day or two.

OLIN WEST."

It has been proposed that representations be made urging the Government to take over the medical care of these people and your officers have sent a telegram to President Roosevelt to this effect. The low wage proposed would seem to justify this action. There are those, however, who might well raise the question as to whether, in asking aid of the Federal Government for this selected group of gainfully employed, we may not be, quite officially, proposing what, in the past, we have been pleased to call State Medicine. Your Council feels that this is a matter to be fully considered by this House of Delegates.

Respectfully submitted,  
JULIUS H. POWERS, *Chairman*.

THE SPEAKER: The report of the Chairman of the Council will be referred to the Reference Committee on the Annual Report of the Council.

THE SPEAKER: The next order of business has been taken care of by the appointment of these Reference Committees whose personnel is posted on the blackboard. The chairmen of the respective committees will be held responsible for the appointing of the time and place of their meetings.

May I say to the members of the House of Dele-

gates who have problems involved in these different reports that it is the earnest desire of the Speaker that you meet with these committees, that you iron out your problems with them, so that when the chairman of that reference committee brings in his report it will save a great deal of time of the House of Delegates by having previously ironed out unpleasant situations that might otherwise arise. The chairmen of those committees respectfully request that you present your viewpoint on the different subjects to the committees.

The next order of business is reports of standing committees, the first of which is the report of the Standing Committee on Legislation: Dr. J. B. Bradley, Chairman, L. G. Christian, Philip Riley, William Hyland, and L. G. Garipey.

DR. PHILIP RILEY (Jackson): Mr. Speaker, I would like to move that the House go into executive session for this report.

The motion was seconded by Dr. Roy H. Holmes, Muskegon.

THE SPEAKER: It is moved and seconded that the House convene in executive session for the Legislative Committee report. Is there any discussion?

DR. C. S. GORSLINE (Calhoun): Does that contemplate that all members of the Society may remain?

THE SPEAKER: The Speaker cannot answer that. If you make that as a motion, that the members remain, that can be acted upon. If you have an executive session without any action, all members of the Society except duly accredited delegates will be excluded from the meeting.

DR. GORSLINE: What is the wish of the maker of the motion?

DR. RILEY: At the last meeting I attended, each individual who was not a delegate or a Councilor was admitted by a special vote.

DR. GORSLINE: Mr. Speaker, I move you that all members of the Michigan State Medical Society in good standing be privileged to remain in this executive session.

THE SPEAKER: The Chair will consider that motion after you have acted on the motion to go into executive session. Is there any further discussion as to whether you wish to go into executive session? If not, those in favor say "aye," those opposed say "no." It is carried.

Now relative to the membership of those who may remain, I will entertain your motion, Dr. Gorsline, which is to the effect that all members of the Michigan State Medical Society in good standing be permitted to remain in the executive session.

DR. A. V. WENGER (Kent): I second that motion.

DR. ROY H. HOLMES (Muskegon): Will it be possible to amend that to permit Bill Burns to remain? If so, I so move to amend.

DR. GORSLINE: I accept the amendment.

THE SPEAKER: Those in favor say "aye," those opposed "no." It is carried.

The Chair will appoint Dr. Corbus as Secretary and Dr. Sheets to poll the House. The Speaker will appoint as Sergeant-at-Arms at the door, Dr. James O'Meara.

THE SECRETARY: Mr. Speaker, the House has been polled and we believe that everyone here is a member of the Michigan State Medical Society in good standing.

THE SPEAKER: Does any member have any information to the contrary? If not, your Speaker now declares this House in executive session, and the report of the Legislative Committee will be presented by Dr. Christian.

DR. L. G. CHRISTIAN (Ingham): In the absence of Dr. Bradley, who is the Chairman, but who is not in good health, I have been asked to present our report.

Dr. Christian read the following report of the Legislative Committee.

## REPORT OF LEGISLATIVE COMMITTEE

At the Battle Creek session of the House of Delegates the Legislative Committee in presenting their report recommended that the State Society employ a legislative representative. It was the impression and the firm belief of the committee that this report had been adopted by the House of Delegates and that the Council would comply with their wishes. Our plans of a campaign for the 1935 meeting of the legislature were based upon this assumption and with this assumption we began our work for the year.

Several meetings with all committee members present were held in the early fall. Bills were discussed and their methods of presentation were formulated. All this time we assumed that the Council of the Michigan State Medical Society was working on the problem of selecting a legislative representative as you so designated. Late in November a meeting of the Executive Committee of the Council and several past presidents of the Michigan State Medical Society was held at the Olds Hotel, following which the Legislative Committee was invited to attend. Unfortunately, there was not a quorum of the Executive Committee of the Council present. (At this meeting the Legislative Committee was informed by Dr. Corbus that the report at the Battle Creek meeting of the Committee to the House of Delegates was accepted, not adopted.) At this meeting the wishes of the House of Delegates were discussed at various lengths by various members of the Legislative Committee and the Executive Committee and others present. Some members thought that the motion on the report was for adoption while the records in the Proceedings of House showed that it was not adopted but merely accepted. The meeting adjourned without any definite plans being forwarded to the Legislative Committee. During the argument as to the acceptance of the committee's report, the Legislative Committee appealed to the ruling of the Speaker, Dr. Luce, who ruled that it was the sense of the House of Delegates that the Legislative Committee's report was adopted. A member of the Legislative Committee, Dr. Philip Riley, wrote to Dr. Foster of Bay City, who was chairman of the Committee on Committee Reports. Dr. Foster replied that it was his impression that he made a motion for the acceptance and adoption of the Legislative Committee's report, which embodied the employment of a legislative agent to be employed by the Council to represent the Medical Society in the 1935 session.

On January 16 the Council of the Michigan State Medical Society met at the Statler Hotel in Detroit. Dr. Bradley, the chairman of the Legislative Committee, was invited to be present; and a discussion was entered into concerning our legislative representative. Dr. Bradley, as chairman of the Legislative Committee, was questioned and asked whether the Legislative Committee had hired a legislative agent to represent you in the State Legislature during the present legislative session and, incidentally, the legislature was then in session. He defended himself and the Legislative Committee as best he could by asserting that to his knowledge the Legislative Committee had not employed a legislative agent. At this time we wish to state that the Legislative Committee in whole or in part did not employ any legislative agent, although we were heartily in favor of carrying out the wishes of this Honorable Body.

Late in January a meeting of the Executive Committee of the Council was held jointly with the Legislative Committee at the Olds Hotel at Lansing, at which time this very vital subject was brought

up and discussed. Marked views were entertained concerning the advisability of employing this legislative agent. Your Honorable President has felt and does feel that no such measure should be taken by the State Society. At the November meeting Dr. Corbus was to poll the Council as to the advisability of a legislative agent but we have as yet not learned the result of that vote. This failure of action brings to our minds at this time the total lack of coöperation and inadequacy of the Michigan State Medical Society in dealing with medical problems in the legislature.

Gentlemen, do you realize how weak, how totally incompetent we are to deal with the legislators as a whole unless we are properly represented? What one of you men here seated will graciously, gladly, and willingly give all of his time from his practice as our chairman, Dr. Bradley, has for the past year, practically neglecting his practice entirely, and devoting all his efforts to the protection of your welfare? How many of you men here will devote five hundred hours from your office practice and your hospital practice and your household worries such as Dr. Christian has in the past year to protect your interests? How many of you men will devote one hundred sixty hours of your time such as Dr. Riley has to protect your interests in the State Legislature? How many of you men will devote one hundred sixty hours of your time as Dr. Garipey has to protect your interests, safeguard your children who may in time practice medicine in the State? How many of you men here will devote the number of hours which we are unable to state that Dr. William Hyland has given to protect your interest? Incidentally, Doctors Riley, Hyland and Garipey have driven through storm, sleet, snow and ice to these meetings when the rest of you men have sat around your firesides—comfortably. We men who are practicing now are not so alarmed about our present status, but it is *you* and *your children* whom we are thinking about. Dr. Perry of Newberry devoted his entire winter consisting of five months—one hundred fifty whole days—to your cause, and these days were twenty-four hours in a day. He, with Dr. Bradley, neither stopped for sundown nor sunrise. He contacted these men and made friends with them and acquainted them with our organization. These accomplishments took place in late March when we were definitely convinced that your organization did not intend to employ a representative in the legislature for us. There probably was a marked lack of tact and diplomacy both on the part of our committee and the Council but, in any case, our program was definitely delayed by this discussion.

During this time a group of doctors throughout the state who were interested in our legislative problems organized themselves into what might be called an "unofficial committee." Soon after this, interest was aroused throughout the state and funds were obtained both from individuals and from a number of county societies. This unofficial committee made arrangements to secure a legislative representative, and we feel that we should express our appreciation for the assistance that this committee has been to us both through their individual efforts and through the advice and assistance of their legislative representative, Mr. William J. Lambert.

In the 1935 session of the Michigan State Legislature there were introduced approximately one thousand bills. About one hundred twenty affected the medical profession in one way or another.

Your Legislative Committee this year proposed a different attitude toward the legislature than that which had been in practice by the State Society in previous years. During the primary and general elections of 1934 we urged the doctors in various counties and districts to support men who had



proved to be our friends or who when interviewed were friendly to the cause of higher professional qualifications and medical problems. In several instances we caused the defeat of men who had fought and voted against our interests in the 1933 session of the legislature. We visited many counties and held many meetings with the doctors, urging them to support certain of our friends. Fortunately, we were able to elect these men, who later proved by their work and their votes in the legislature that our work had not been in vain.

For the past several years there has been a demand by the doctors throughout the state that the care of the afflicted indigent child should be given to his home community in approved hospitals with local physicians as attendants. In the 1933 session of the legislature such a bill was passed by the House, but amended in the Senate, utterly destroying the meaning of the act. From the letters received by our chairman from all over the state demanding that the Senate Amendment be deleted, we felt that this was our most important piece of legislation.

The 1933 legislature reduced the fees for the examination of the insane person from \$5 to \$3 purely as an economy measure. Many of the probate judges throughout the state reduced this fee while a majority, realizing that the examination was worth \$5, did not reduce it. From those counties where the reduction had occurred the doctors asked this fee to be raised.

The Medical Practice Act and the Professional Qualifications Law as prepared by the committee and submitted to the Council were returned from the Council too late, in our opinion, to be introduced in this session.

Many bills affecting the Workmen's Compensation Act and the doctors were opposed through supporting certain other interests who were also vitally affected. One of these bills, *Senate Bill No. 45*, relating to industrial diseases, making the employer liable for compensation from practically every disease from acne to zoster, was defeated through cooperation of representatives of industry. This, in our opinion, would have been the greatest step toward state medicine that has ever been attempted in Michigan. Every bill in which we were interested, with the exception of *Senate Bill No. 281* regulating the practice of osteopathy, was either killed in committee or on the floor. This bill gave the osteopaths no new legal rights, but undoubtedly gives their board more power over these practitioners. Physician members of the legislature voted for this bill in committee and supported it on the floor.

Since *Senate Bill No. 277* amending the Afflicted Children's Act was the spear-head of our attack in the legislature, we feel that a short history of this bill is justified. Due to a difference of opinion between the Legislative Committee and the Council as to the matter of policy, the legislative program was held up until the middle of February, when an amicable adjustment was made. By the time that complete reorganization could be accomplished, eight weeks of the legislative session had passed. Our first bill was introduced in the legislature February 26. Following the introduction of *Senate Bill No. 277* on March 19, it was referred to the Committee on Public Health, where it was acted upon favorably and passed the Senate by a vote of 24-3 only after strenuous attempts by certain individuals and interested groups had failed to defeat the bill. It was then sent to the House, where it laid in the Public Health Committee for two or three weeks before being reported out. It remained on the House Calendar day after day for four weeks, being caught in the rush of the final weeks of the legislature. Here again individuals and special interests fought this bill. Many legislators openly or by sub-

terfuge did every conceivable thing, fair or foul, to defeat it. It was during these days that your Legislative Committee worked almost constantly night and day talking and arguing the merits of the legislation. It was finally passed 77-7, and one of our enthusiastic friends moved to give it immediate effect. The committee feared if the bill was given immediate effect that it would not be properly enforced, and we felt that much missionary work should be done to overcome any maladjustments that might arise in enforcing this law.

The committee's worst fears seem to have been justified as the Crippled Children Commission first reduced the "Fee Schedule A" fifty per cent and then on July 1, 1935, reduced the physician's fees to one dollar regardless of the diagnosis of the case, giving as their reason that the legislature passed the bill without an appropriation. This whole matter will probably be presented to your Honorable Body by the Council. Nevertheless, the Legislative Committee wishes to report on a meeting held by the Medical Society of Ingham County in Lansing on September 5, 1935, at which time Mr. Harry Howett of the Crippled Children Commission admitted that the entire appropriation of \$1,400,000 was appropriated for the enforcement of the *Afflicted Children's Act* and that not one cent had been appropriated for the care of the crippled child, but that the Crippled Children Commission had seen fit to divert a great portion of this appropriation for the administration of the Crippled Children's Act. This statement of Mr. Howett is part of the official transactions of the Medical Society of Ingham County, and is submitted with this report to refute the charge that the Legislative Committee was negligent in passing a bill without an appropriation. It is our understanding from Mr. Howett's talk that the Crippled Children Commission has had legal advice on this question.

The groundwork for future legislative activities has been laid. The doctors of Michigan have more friends in the legislature today than at any time for many years. These men appreciate the contacts, acquaintances, and, in many instances, friends that they have made with the doctors during this session.

The doctors of Michigan cooperated wonderfully well with your committee. More than 15,000 letters, telegrams, and other communications were sent out during this session. Your committee received nearly one thousand letters asking for information, commending our efforts, and replying to requests made by us to them. This committee could have done nothing without the marvelous support of the County Society officers and individual members. No appeal made to any individual physician throughout the state failed to bring an enthusiastic effort and response.

Your committee believes that if we are to continue to be successful, the State Society must continue its activities and whole-heartedly support a larger and more thorough legislative program in the sessions to come. We recommend:

*First:* The legislative program of the Michigan State Medical Society should be a continuing program, year in and year out. The legislative bills to be proposed should be drawn up and submitted to your Council for approval during the non-legislative year.

*Second:* Every county and district medical society should be stimulated to develop satisfactory and active legislative committees whose legislative policies are definitely established and unified throughout the state, namely, contacting legislators and keeping a closer relationship with the public officials.

*Third:* The chairman of the Legislative Committee of the State Society should keep the chairmen of the legislative committees of each county society informed concerning any legislation relating to

medicine that is contemplated or in the process of passage. The local chairman should in turn pass word along to members of his committee. Each member of the Senate and House of Representatives in the particular county or district should be covered by at least one physician, preferably the family physician. The key-man should contact the legislator frequently, become his friend and give advice on legislation relative to medical practice in advance of the bi-annual election. All candidates for offices which touch the practice of medicine should be contacted and given the right viewpoint and the records of all such contacts and viewpoints of each legislator should be kept on file with the Executive-Secretary of the State Society.

*Fourth:* An executive-secretary should be on the job permanently in Lansing to coördinate all these activities and institute a new program. He should be assisted by a legislative observer appointed by the Council of the State Society after the recommendations of the Legislative Committee have been considered. The legislative representative shall be arranged by the Legislative Committee with the coöperation of the Executive-Secretary of the Michigan State Medical Society.

*Fifth:* We propose that the dues of the Michigan State Medical Society be raised \$1.50 a year, to its Constitutional limit, for educational purposes, this percentage of the total dues to be allotted to carry out the program as stated in Number Four.

*Sixth:* The Legislative Committee of the State Medical Society should consist of seven members instead of five as at present. Five members should be appointed as at the present time for a period of two years, the sixth member should be the president-elect of the State Medical Society and the seventh member should be the chairman of the Council.

We endorse:

*Seventh:* A Michigan Health Council or Allied Health Group should be formed of representatives of physicians, dentists, nurses, pharmacists working coöperatively in health legislation with representatives of teachers, lawyers, and social workers.

This Health Council should be an integral organization throughout every county and district.

*Eighth:* We respectfully recommend that the State Legislative Committee give due consideration to and prepare a report to your Honorable Body and the Council on the following problems at the next annual meeting:

- A. The integration of medicine.
- B. The practice of medicine by corporations, insurance companies, and hospitals.
- C. The Basic Science Laws.
- D. The revision of the Medical Practice Act.

Respectfully submitted,

J. B. BRADLEY, *Chairman*,  
 PHILIP RILEY  
 WILLIAM A. HYLAND  
 LOUIS J. GARIEPY  
 L. G. CHRISTIAN

THE SPEAKER: The report of the Legislative Committee will be referred to the Reference Committee on Standing Committee Reports: Dr. Foster, Chairman, Drs. O'Donnell, Bandy, Hart, Sheets, O'Meara, Snapp, Holmes, Mayne, Callery, Sladek, Johnson, Robb, Gruber, and Hirschman.

Again the Speaker recommends every member of this Society appear before this Committee to talk individually with these members and express your opinion in order that that report may be complete.

Unless there is further business to come before this executive session, the Chair will consider a motion to rise from executive session.

DR. RILEY: I move that we rise from executive session.

The motion was seconded and carried.

THE SPEAKER: We are again in open session. The next report is from the Chairman of the Woman's Auxiliary Committee.

DR. L. J. HIRSCHMAN (Wayne): Mr. Speaker, the members of my committee labored long and ardently on the report and finally boiled it down to six or seven lines, and you will find it printed in the handbook where all may read it. I recommend its adoption.

### REPORT OF WOMAN'S AUXILIARY ADVISORY COMMITTEE

The activities of the Advisory Committee to the Woman's Auxiliary have been confined the past year to personal conferences with various officers of the state and some county organizations. Our advice has been sought in connection with legislative and economic questions. It was the pleasure and privilege of the chairman to attend meetings of the state executive committee and officers, as well as meetings of the Wayne and Jackson County Auxiliaries. The Woman's Auxiliary is doing a fine job in an effective way and excellent results may constantly be expected.

LOUIS J. HIRSCHMAN, *Chairman*.

THE SPEAKER: A motion for adoption is not in order. The report of that committee will be referred to the Reference Committee on Standing Committee Reports.

Radio Committee, Dr. Stapleton, Chairman.

DR. WM. J. STAPLETON, JR. (Wayne): Mr. Chairman, in view of the fact that the report is printed in the program, I ask that the members read it and that I not do so here now.

### REPORT OF RADIO COMMITTEE

(See September JOURNAL, Michigan State Medical Society, page 566, for the text of the Report of the Radio Committee.)

THE SPEAKER: This report will be referred to the Reference Committee on Standing Committee Reports.

The report of the Committee on Preventive Medicine, Dr. L. O. Geib, Chairman.

DR. L. O. GEIB (Wayne): I wish that everyone would peruse the report of the Committee on Preventive Medicine very carefully. We have some recommendations and some ideas in there that I would like to get across to this entire body. I hope you will read the report in the bulletin so you will be familiar with it when the report of the Reference Committee is brought in.

(For text of this report see September JOURNAL, page 567.)

### REPORT OF PREVENTIVE MEDICINE COMMITTEE

THE SPEAKER: The report of the Committee on Preventive Medicine is referred to the Reference Committee on Standing Committee Reports.

Report of Delegates to the American Medical Association, Dr. J. D. Brook, one of the oldest delegates in the A. M. A. in point of service.

Dr. Brook read the report of Delegates.

### REPORT OF DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

Because of no previous opportunity to report on the special session, your delegates present herewith a combined report of the special meeting of the House of Delegates of the A. M. A. and the regular meeting held at Atlantic City in June.



### The Chicago Special Session

Because of impending Federal legislation on Social Economic subjects, including sickness insurance, it was deemed advisable by the A. M. A. officers to call a special meeting of the House of Delegates to consider the various phases of the proposed legislation. This meeting was held in Chicago on February 15 and 16 last and was called to order by Speaker Warnshuis. A lengthy preliminary statement by J. H. J. Upham, Chairman of the Board of Trustees, was much discussed. Some told stories, some just talked, while others gave exhibitions of oratorical talent. Politics of course was out and ethics at a premium. But when possible membership on a special committee at a special meeting is in the offing and its personnel goes to the Associated Press for consumption of the folks at home, it is well worth while to try out your ability as a speaker and debater. May it be said to their credit that none of the Michigan delegates participated in the contest. Finally Dr. B. F. Bailey of Nebraska moved that a Special Reference Committee be appointed to crystallize the expressions of the delegates and bring recommendations to the House for final action. The motion was carried, much to the satisfaction of the sleepy, hungry, smoke-soaked delegates, who saw in this action a respite until the following day.

The Committee report emphatically condemns certain features of the Wagner bill, later known as the Economic Security bill, such as administration of medical service for crippled children in the Department of Labor, and "condemns as pernicious that section of the Wagner bill which creates a social insurance board without specification of the character of its personnel to administer functions essentially medical in character."

Besides these specific charges the "House reaffirmed its opposition to all forms of compulsory sickness insurance whether administered by the Federal government, the governments of the individual states or by any individual, industry, community or similar body. It reaffirms, also, its encouragement to local medical organizations to establish plans for the provision of adequate medical service for all of the people, adjusted to present economic conditions, by voluntary budgeting to meet the costs of illness." And further, "In the establishment of all such plans county medical societies must be guided by the fundamental principles adopted by this House of Delegates at the annual session in June, 1934." Finally the "Reference Committee suggests that the Board of Trustees request the Bureau of Medical Economics to study further the plans now existing and such as may develop, with special reference to the way in which they meet the needs of their communities, to the costs of operation, to the quality of service rendered, to the effects of such service on the medical profession and to the applicability to rural, village, urban and industrial population, and to develop for presentation at the meeting of the American Medical Association in June model skeleton plans adapted to the needs of populations of various types."

The report of the Special Committee was unanimously adopted and is given in full on page 747 of the March 2nd issue of the *Journal*. The House adjourned at 3:50 P. M. on February 16.

### The Atlantic City Session

The 1935 Atlantic City session of the A. M. A. House of Delegates held June 11 to 15 was somewhat apathetic as compared to previous sessions in recent years. This was perhaps due to the fact that the action taken at Chicago had deprived the membership of much argument and debate on a subject of vital interest to all.

A curtain of gloom somewhat overshadowed the

otherwise peppy atmosphere of the opening session of the House by the announcement that Speaker Warnshuis had unexpectedly suffered the loss of his oldest son. This necessitated his absence until the second session on Tuesday morning.

Despite the apathetic atmosphere there were, however, some interesting things presented of interest to the entire profession.

Speaker Warnshuis refers in his address to the desirability of bringing to the various state memberships a detailed report of all that transpired at this session. Obviously that would bore you but we do urge that you at least scan the published proceedings as given in the *Journal*.

President Walter L. Bierring makes a very terse statement at the close of his address which we believe might well be memorized by all of us as follows:

"If the medical profession is to maintain its nobility of purpose and obligation to society it can only be by the quality of its service and the qualifications of those rendering this service. Therein lies the great opportunity of our association—by unity of effort in conjunction with constituent state and component county medical societies to keep in the pathway of progress and meet the challenge of a changing world."

The reports of the Secretary, Board of Trustees and the Judicial Council were duly presented and referred to their respective Reference Committees. These reports are interesting and instructive but too long to be here chronicled and we recommend them to you for your individual perusal.

One of the surprising performances of the House was the action taken on the controversial subject of contraception. Nine separate resolutions from as many State and County Societies were presented and referred to a Special Committee for consideration with the request that a report be submitted in Executive Session. The gist of the Committee Report, presented by E. R. Cuniffe, Chairman, was:

"RESOLVED, That a special committee be appointed after due consideration, by the Board of Trustees to study these related problems and to present at least a preliminary report to the House of Delegates of the American Medical Association at the 1936 annual session; and further that the trustees be requested to appropriate the funds necessary in order to carry out the purposes of these resolutions."

This action proposes practically the identical request made in resolutions presented to the House of Delegates at New Orleans three years ago by one of the Michigan delegates. Which, as remarked by one of our members, shows again that "Michigan is three years ahead of the parade." Following the adjournment of the session, the writer in conversation with Dr. Fishbein asked, "How come the action on birth control?" To which the Editor of the *Journal* replied, "Well, the pressure became so great we had to do something about it." While your delegates freely admit voting for birth control resolutions we deny that such action reflects our personal attitude toward the subject. Our affirmative action was merely a desire for information and direction through sincere investigation as to its scientific or economic status.

Your attention is called to the report of the Committee on Legislative Activities by E. H. Cary, Texas, Chairman, found on page 2364 of the *Journal*, in which he comments upon many contacts made in Washington. Because of the action taken one year ago by the American College of Surgeons favoring compulsory sickness insurance, it is interesting to note a paragraph in the report which says:

"A man in high position indicated that he would convey, at an opportune time, to the President of the United States, the information that the majority of the membership of the American College of Surgeons supported the action of the American Medical Association against compulsory sickness insurance."

In corroboration of this statement, Dr. Cary in an unpublished address at the closing session of the House of Delegates stated that: "The impressions gained from a conference with leaders of the American College of Surgeons, was that they agreed with the action of the House of Delegates taken at its session held in Chicago in February, 1935," all of which seems to have brought harmony out of dissonance.

In the report of the Board of Trustees Dr. J. H. J. Upham calls attention to the "Integration of Medical Profession" which I believe is of sufficient importance to repeat here.

"The Board of Trustees has been advised that at least two states have had under consideration, and that one still has under consideration, the matter of the reorganization of the medical profession along lines similar to those that are being followed in a number of states for the reorganization of the legal profession, namely, by a process of what is known as 'integration.' Under this process the entire profession of the state is organized by law, or in the case of the legal profession, in some instances, under direction of the courts, into a public corporation or its equivalent. Every licensed practitioner in the state is by reason of his status as a licensed practitioner a member of the corporation and entitled to a vote in its management. He pays such dues as the corporation imposes on him. The corporation, through its proper officers, passes on the qualifications of every person seeking a license to practice in the state, supervises their professional activities while they are licensed, and disciplines them as circumstances require in case of misconduct. Expulsion from the corporation and revocation of license are synonymous, for no one can practice who is not a member of the corporation.

"It will be seen that under this system the profession is organized into a guild, as it were, and controls its own affairs, except that it has no right to pick and choose its members if they are morally and professionally qualified. It combines the functions of a medical licensing and examining board and of a state professional society. As has been pointed out, this kind of organization is being rather extensively followed by the legal profession. It has already been adopted by law in Oklahoma for the dental profession. It has been considered in one state and has been and is still being considered in another. It seems probable that other state associations will, in due time, give consideration to the form of organization described. For this reason, and in view of the revolutionary character of the change described, the Board of Trustees has deemed it best to submit it to the House of Delegates for determination of the policy of the Association with respect to it."

Dr. H. H. Shoulders, Chairman of the Committee to whom the report was referred, sums up as follows:

"Your committee, therefore, recommends that the matter be referred to the Board of Trustees with the recommendation that the Board give careful study to the subject through the proper officers and bureaus of the Association, and that information thus gained be furnished to the various state associations by means of bulletins and communications, from time to time. Your committee recommends further, that the Board of Trustees make recommendations to the House at its next regular session concerning a policy on the subject."

On Monday evening at a dinner tendered by the New Jersey medical profession to the House of Delegates, Senator James Hamilton Lewis was guest speaker. Senator Lewis spoke earnestly and inspiringly for world peace and emphasized the great importance of the medical profession in moulding public opinion. Indeed he said that the profession, through its members, might well determine the policy of the nation on any subject to which they gave their earnest thought and effort. It seems that we might well ponder on this statement of Senator Lewis and direct our thought and energies accordingly in the future. It is a valuable suggestion and gives us an insight as to the viewpoint of the thinking laity.

As you know, this was a combined meeting of the American Medical Association and the Canadian Medical Association. At the Tuesday morning session Dr. J. C. Meakins, President of the Canadian Medical Association, Dr. J. S. McEachern, past president, Dr. Alexander Primrose, chairman of the

Program Committee, Dr. George S. Young, Chairman of the Council, and Dr. T. C. Routly, Secretary, were presented to the House by the Speaker. These gentlemen made brief addresses which were very fittingly responded to by President Biering. Other activities of the Canadian Association were outside of the purview of the House of Delegates.

An interesting side light to an otherwise apathetic house was the query by the "stand pat" Republicans of Massachusetts through their good natured be-whiskered delegate, Dr. C. E. Mongan, who requested that the representatives of the California State Medical Association explain its action relative to Health Insurance. Dr. Kelly, chairman of the Council of the California State Medical Association, gave a very able and clear explanation. It appeared from his talk that the action of the California State Medical Association was a political expedient, necessitated by the situation that exists in California. His explanation was apparently well received by the House, but subsequent transactions made it appear that California was spanked for its actions. Dr. Kelly's explanation was not published in the transactions of the Executive Session but copy and a complete explanation of California's actions have been prepared by the California State Medical Association in the form of a reprint and can be had upon request by addressing Secretary Warnshuis at San Francisco.

Dr. G. R. Leland, Director of Bureau of Medical Economics, presented a special report which was referred to the Reference Committee on Medical Economics without reading. Copies of this report were distributed to the membership and contain recommendations to state and county societies on sickness insurance. It was recommended as a final action of the House that counties, attempting to develop plans, do so with the utmost care and study and that plans be submitted to their respective state organizations for approval before instigation.

The election of officers presented on the surface no excitement, yet one of the most significant changes in more than a decade occurred when Michigan's former Secretary, Dr. F. C. Warnshuis, was defeated for the office of Speaker by Dr. Nathan B. Van Etten of New York by a vote of 80 to 71. Dr. Van Etten, like his predecessor, is a cultured gentleman of Dutch descent, was Vice-Speaker for three years and upon various occasions has evidenced able qualifications for this important post.

From the figures you will note that the victory was not so overwhelming, Dr. Van Etten being the victor by but 9 votes. It was generally conceded that Dr. Warnshuis' defeat was not due to inability or impartiality, but rather to political expediency. It has been suggested that because of California's action on sickness insurance he might have been re-elected had he remained in Michigan. Yet this argument is quite out of harmony with other events during the election of officers. You are aware that Michigan had a candidate for member of the Board of Trustees in the person of Carl F. Moll, than whom no finer man could be found in any state to grace the dignified table of the Board of Trustees. His fairness, ability, and adherence to the sound principles of organized medicine stamp him as timber without a flaw. Although Dr. Moll was not elected to the Board, Dr. Moll in person was not defeated. Apparently he was, as has been suggested in our JOURNAL editorially, simply the goat for an undeserved but effective chastisement to Michigan for its action in presenting certain resolutions at the Cleveland meeting in 1934. Although we were disappointed in defeat we hold no ill will toward the House membership, being convinced that misunderstanding and incorrect opinions will some day be replaced by confidence and consequent vindication.



Dr. J. Tate Mason, of Seattle, was elected president-elect, and the efficient and generally admired Secretary, Dr. Olin West, was unanimously re-elected to his post. The House selected Kansas City as its next meeting place to be held on May 11-15, 1936. All of which is respectfully submitted and signed by your delegates.

HENRY F. LUCE  
C. S. GORSLINE  
CARL F. MOLL  
L. J. HIRSCHMAN  
J. D. BROOK

Report of the Standing Committee on Maternal Health, Chairman, Dr. A. M. Campbell.

THE SECRETARY: Mr. Speaker, on account of the absence of the Chairman I have the report in my hands. Is there any member of the committee here who would like to read this?

THE SPEAKER: The members of that committee are Harold Mack, Harold Hurley, Norman Miller and Max Burnell. Are any members of that committee present? Dr. Corbus, you may read the report for that committee.

The Secretary read the report of the Committee on Maternal Health.

## REPORT OF COMMITTEE ON MATERNAL HEALTH

Your Committee on Maternal Health begs leave to submit the following report:

A committee, called the Birth Control Committee, which was appointed in 1932, made a report before the House of Delegates at the 1933 meeting of the Michigan State Medical Society. This committee recommended that the principles of contraception should be endorsed by the Medical Profession of this state, and that a permanent committee should be appointed to continue research and investigation concerning birth control.

This report was unanimously adopted by the House of Delegates, and at this same meeting your honorable body appointed a permanent committee and recommended that the name of the committee be changed to the Committee on Maternal Health, thereby making it possible to broaden the scope of its activities and to consider other questions relative to maternal health of equal, if not greater importance, than birth control.

The committee, which was appointed by President George L. LeFevre, and reappointed by President Smith, was inactive in 1934 and made no report.

The following is a summary of the committee's activities during the present year and under the enlarged conception of its duties:

Several meetings have been held in which the present status of birth control has been considered, and the conclusion reached that a continuation of interest in the practice of contraception is being manifested in the State of Michigan.

Placing contraception entirely within control of the medical profession, and its endorsement by the House of Delegates of the American Medical Association are contemplated objectives. It is hoped that the medical profession will present a solid front to the Congress of the United States, so that restrictive legislation will be removed, permitting competent physicians to advise and prescribe in matters of contraception with the same freedom that obtains in other branches of medicine.

The committee feels that another important objective is to urge all physicians who assume the responsibility of giving contraceptive advice, to inform themselves concerning the most approved and reliable methods.

The committee authorized its chairman to send out a letter to the secretaries of nearly all the County Medical Societies in the state, offering to furnish medical speakers to such county societies that were desirous of being addressed on the principles and technic of contraception. A large number of replies were received asking for speakers to discuss the subject, and already a number of addresses have been given and plans are being made for their continuation when the medical meetings resume in the autumn.

The task of furnishing speakers has been made possible as a result of the very hearty coöperation of the Michigan Maternal Health League.

Contraception will form a part of the postgraduate courses which will commence on September 30.

Realizing the propriety and necessity of studying other important problems of maternal health, your committee has been investigating the activities of various maternal health organizations, and desires to report on the objectives of the Committee on Maternal Welfare, Incorporated. This recent organization is an outcome of the Joint committee on

Maternal Health which was formed about fifteen years ago. Some of its purposes and objects were to urge on the medical profession a greater interest in the protection of mothers and their offspring during pregnancy and after confinement.

It desired also to teach the principles and practices of general and personal hygiene and health to parents, and to raise the standards of the methods of training physicians and nurses and others dealing with maternal problems.

The object of the American Committee, Incorporated, are stated to be as follows:

- To elevate the standard of maternity services rendered and thereby safeguarding the health of the mother by the decreasing of infection following abortions and childbirth.
- To increase the number of full term pregnancies by decreasing sterility, and by reducing the number of abortions and premature labors.
- To strive for more and better maternal care during the prenatal, intrapartum and postnatal periods.
- To accentuate the fact that the welfare of the infant and child depends upon the welfare of the mother, and that on both, depends the welfare of the community.
- To encourage leadership and coöperation and interest of the medical profession in better obstetrics.

This organization consists of selected representatives from the following organizations: American Child Health Association, American Gynecological Society, American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Sections on Obstetrics, American Medical Association, Central Association of Obstetrics and Gynecology, New England Obstetrical and Gynecological Society, American Public Health Association, Maternity Center of New York, Southern Medical Association, Pacific Coast Society of Obstetrics and Gynecology, Chicago Maternity Center, Canadian Medical Association, Federal Children's Bureau of the United States Department of Labor.

Your committee most heartily endorses the objectives of the American Committee of Maternal Welfare, Incorporated, and recommends that the president of each County Medical Society in Michigan appoint a permanent Committee on Maternal Health whose duty it will be to coöperate with the State Committee on Maternal Health, and with the American Committee on Maternal Welfare, Incorporated, with the purpose of elevating the standards of maternal care in each community so that local conditions and problems can be studied in full.

Your committee believes that if the medical profession follows the above plan of dovetailing County, State, and National organizations, for the purpose of elevating the standards of maternal care, that it will be of inestimable herefit, and that it will present a challenge that will stimulate all physicians who do maternity work to improve the quality of their services.

We have examined the "Proposed Plans for Further Development of Maternal and Child Health Programs," adopted by the State and Territorial Health Officers in Washington, June 19, 1935. This program outlines the standards for officers and personnel and plans for local and state organizations. Inasmuch as this is based on, and dependent on, material included in the report to the Committee on Economic Security, we have no recommendations to make.

Respectfully submitted,

DR. ALEXANDER M. CAMPBELL, *Chairman*  
DR. MAX BURNELL  
DR. HAROLD L. HURLEY  
DR. HAROLD C. MACK  
DR. NORMAN MILLER

THE SPEAKER: The report of the Committee on Maternal Welfare will be referred to the Reference Committee on Standing Committee Reports.

The Cancer Committee, Osborne A. Brines, Chairman. The attention of the Reference Committee is called to the published report in the handbook, from which they may draft their report.

## REPORT OF THE CANCER COMMITTEE

(For text of this report see JOURNAL Michigan State Medical Society, September, 1935, page 568.)

Next is the report of the Economics Committee, Dr. W. H. Marshall, Chairman.

DR. W. H. MARSHALL (Genesee County): Mr. Speaker and Members of the House of Delegates: It is now ten minutes of six. You have had three long hours of listening to various reports. It will take an hour and a half to present the very important findings of our committee and subcommittee, and I would suggest that you postpone this report until the evening session.

DR. BASIL L. CONNELLY (Wayne): I move that we recess until eight o'clock.

DR. W. C. ELLET (Berrien): I amend it to 7:30.

DR. ROY H. HOLMES (Muskegon): I further amend it to make it 7 o'clock. (Seconded.)

THE SPEAKER: You are moving a substitution of 7 o'clock. Those in favor of the hour of 7 o'clock say "aye," those opposed say "no." The "ayes" appear to have it; the "ayes" have it.

The motion now is that this House recess until 7:00 p. m. Those in favor say "aye," opposed "no." It is carried.

The meeting recessed at 5:50 p. m., to reconvene at 7:00 p. m.

## Monday Evening Session

September 23, 1935

The meeting of the House of Delegates reconvened at 7:00 p. m., the Speaker, Dr. Henry A. Luce, presiding.

The Chairman of the Credentials Committee reported a quorum not present, whereupon the Speaker declared a recess of fifteen minutes and called the House to order at 7:15.

THE SPEAKER: Dr. Switzer of the Credentials Committee, have you a report?

DR. L. W. SWITZER (Mason): Mr. Speaker, the Credentials Committee report 72 delegates registered. They further recommend that Dr. Harkness, of Barry County, be seated in the absence of their regular delegate. He says that he has been appointed in the delegate's place.

THE SPEAKER: What do you wish to do with the supplementary report with reference to the seating of Dr. Harkness, who did not bring credentials from his county society but certifies on his word that he was a duly accredited delegate from his county?

DR. A. E. STICKLEY (Ottawa): I move he be seated.

The motion was seconded and carried.

THE SPEAKER: The Credentials Committee will kindly turn over the roll slips to the Secretary, Dr. Corbus.

The following delegates and alternates were present:

*Alpena County*—F. J. O'Donnell.  
*Barry County*—R. B. Harkness.  
*Bay-Arenac-Iosco*—L. F. Foster.  
*Berrien County*—W. C. Ellet.  
*Branch County*—R. L. Wade.  
*Calhoun County*—C. S. Gorsline.  
*Cass County*—W. C. McCutcheon and S. Martin Tweebie.  
*Chippewa-Mackinac*—F. C. Bandy.  
*Clinton County*—Dean W. Hart.  
*Delta County*—J. J. Walch.  
*Dickinson-Iron*—E. M. Libby.  
*Eaton*—A. G. Sheets.  
*Genesee County*—C. F. Moll, F. E. Reeder and George Curry.  
*Grand Traverse-Leelanau*—E. F. Sladek.  
*Gratiot-Isabella-Clare*—William Barstow.  
*Houghton-Keweenaw-Baraga*—Alfred LaBine.  
*Huron-Sanilac County*—D. D. McNaughton.  
*Ingham*—L. G. Christian, Karl Brucker and H. A. Miller.  
*Ionia-Montcalm*—J. J. McCann.  
*Jackson*—James O'Meara and Philip Riley.  
*Kalamazoo-Allegan-Van Buren*—F. T. Andrews and R. G. Cook.  
*Kent County*—C. F. Snapp, A. V. Wenger, J. D. Brook, and Leon Sevey.  
*Lapeer County*—D. J. O'Brien.  
*Livingston County*—Harry G. Huntington.  
*Luce County*—R. E. Spinks.  
*Manistee County*—Kathryn Bryan.  
*Marquette-Alger*—Vivian Vandeventer.  
*Mason*—L. W. Switzer.  
*Mecosta County*—Gordon H. Yeo.  
*Monroe County*—D. C. Denman.  
*Muskegon*—Roy H. Holmes.  
*Newaygo County*—Oscar D. Stryker.  
*Northern Michigan*—Fred C. Mayne.  
*Oakland County*—Frank Mercer.  
*Otsego - Montmorency - Crawford - Oscoda - Roscommon - Ogemaw*—C. R. Keyport.  
*Ontonagon*—C. F. Whiteshield.  
*Ottawa*—A. E. Stickley.  
*Saginaw*—A. R. Ernst and Ralph S. Jiroch.

*St. Clair*—A. L. Callery.

*Shiawassee County*—I. W. Greene.

*Tuscola*—O. G. Johnson.

*Washtenaw County*—John Wessinger, Dean W. Myers and John Sundwall.

*Wayne County*—M. H. Hoffman, T. K. Gruber, Louis J. Garipey, John L. Chester, W. D. Barrett, R. C. Jamieson, Ralph H. Pino, L. O. Geib, Wm. J. Stapleton, Jr., Fred B. Burke, Stanley W. Insley, Basil L. Connelly, C. K. Hasley, Frank Kilroy, E. D. Spalding, L. J. Hirschman, J. M. Robb, J. E. Davis, George L. Woldblatt, C. L. Straith, and Robert A. MacArthur.

THE SPEAKER: You remember at the last meeting of the House of Delegates a resolution was introduced into the House relative to the use of barbituric acids, with the recommendation that the statute be changed to include the use of barbituric acid drugs under the same limitations as narcotics. A special committee was appointed on that by the Chairman, of which Dr. A. A. Hughes, Coroner of Wayne County, was made Chairman. Dr. Hughes is not present. Dr. Slemmons was on that committee and he is not present. Dr. Schnoor of Grand Rapids was also on that same committee. That has not been reported in the form of a definite report, but Dr. Corbus has correspondence relative to that matter. I will introduce this matter as soon as the Credentials Committee has reported further.

DR. SWITZER: Mr. Speaker, the Credentials Committee reports a total of 45 delegates present and would like to ask a ruling as to whether a Councilor may serve as a delegate. In the absence of a delegate from Macomb County, the county society has appointed Dr. Baker to serve as a delegate.

DR. A. V. WENGER (Kent): A Councilor is constitutionally ineligible.

THE SPEAKER: The Chair rules that in order to be eligible to a seat as a delegate in this House, the individual must be duly elected by his county society in conformity with that portion of the Constitution which reads as follows:

"Article 4. House of Delegates. Section 2. Composition. The House of Delegates shall be composed of delegates elected by the component county societies."

And another section under the By-Laws, Section 3, Chapter 3, reading in part:

"In case of emergency the House of Delegates may seat a duly accredited alternate from his county society."

And Section 4:

"The officers of county societies shall certify to the State Secretary the names of the delegates and alternates who shall represent them at the annual meeting."

In conformity with the Constitution and By-Laws it is the ruling of the Chair that unless an individual has been duly elected by the officers of his society to represent his county he cannot be seated. It is your privilege to appeal from that decision. Will the Chairman of the Credentials Committee state the specific instance?

DR. SWITZER: The delegate from Macomb County could not be present. The President of the Society wishes to appoint a delegate to take his place.

THE SPEAKER: I will ask the Chairman of the Credentials Committee if this individual to whom the President refers was a duly elected delegate or alternate.

DR. SWITZER: Appointed and accredited by an officer.

THE SPEAKER: Then the status of this delegate, of this individual, who seeks a seat in the House of Delegates is that he has been appointed by the President of his society to represent their society in the absence of the delegate. What is your pleasure, gentlemen?

DR. SWITZER: That isn't the whole question. Can a man hold two offices?

THE SPEAKER: Yes, he can be a delegate.

DR. A. E. STICKLEY (Ottawa): In view of the fact that the society cannot be represented because



some of the delegates were taken sick, or something came up they could not be here, it seems to me if the President of that society appoints someone that is good common sense. I think you could construe that he was accredited inasmuch as he was appointed. I don't know whether some of you know it, but a great many of the societies don't meet very often and in cases like this I think that it ought to be up to the Credentials Committee. I make a motion that this delegate be seated inasmuch as he has been appointed by his President.

DR. SWITZER: Mr. Speaker, your Credentials Committee simply asked for a ruling in this case.

THE SPEAKER: The ruling of the Chair is that the Credentials Committee must conform to the Constitution and By-laws of this Society.

THE SECRETARY: Mr. Speaker, may I speak to this because I think that we have a precedent established when at one time a Councilor was also elected as delegate. The matter came up and we looked over our Constitution and could not find that there was anything in the Constitution which would prevent it. Nevertheless, the Council felt at that time that it was inadvisable and we requested the Councilor to resign his office of delegate. Moreover, on that precedent, when Dr. Perry's name came in as delegate, also a Councilor, I wrote him and said that the Council felt that he should not hold both offices. Now in an emergency you are dealing with something else again. There is nothing, however, in the Constitution to prevent a Councilor from also being a delegate.

DR. T. K. GRUBER (Wayne): I should like to read Article 4, Section 3: "The officers of this Society and the members of the Council shall be ex-officio members of the House of Delegates without power to vote."

DR. J. L. CHESTER (Wayne): Would that mean that as a Councilor he could not vote, but as a delegate he could?

THE SPEAKER: Dr. Ekelund of Pontiac has the floor as an officer of the Society.

DR. EKELUND: In the Councilor District comprising Oakland and Macomb we have supposedly three delegates, only one of whom is present. The matter of the election of a Councilor comes up at this meeting, and we feel that we should have one more representative at least from that Councilor District. There being only one other man eligible for that office, Dr. Baker being that man and he being also a Councilor, we see no other alternative except to seat him as a delegate at this time.

DR. L. J. HIRSCHMAN (Wayne): I believe this is an emergency, and I think that under the circumstances explained by Dr. Ekelund I should like to appeal from the decision of the Chair in this matter, and I ask the House to sustain me in that appeal so the county of Macomb can be properly represented in this emergency. I think it is very clear and that they should be entitled to full representation. I believe it is the spirit of this House that we want every county to be fully represented, and the situation is such that that would not be the case. I appeal from your decision, Mr. Speaker.

THE SPEAKER: The decision of the Chair has been appealed from. The question now is on sustaining the decision of the Chair. This is undebatable until that point has been decided upon.

DR. A. V. WENGER (Kent): I remember the original draft of this section of this article, and I want to say that there is an insufficient printing of this Section 3. It was originally provided in the section that no officer of the state society could hold the office of delegate. That is not printed here. But in view of the fact that there is an emergency I want to support Dr. Hirschman's appeal.

THE SPEAKER: Those in favor of sustaining the decision of the Chair make it manifest by saying

"aye"; those opposed say "no." The "noes" appear to have it; the "noes" have it.

DR. HIRSCHMAN: We established a precedent this afternoon by seating several men, four in number, who were certified by their county society but who were not in all cases elected by the county society. I think, therefore, it is in order now, if the Credentials Committee will recommend that this man be seated, that you seat him.

DR. SWITZER: The Credentials Committee does so recommend.

THE SPEAKER: I might say as a matter of explanation that the Credentials Committee accepted only those which were in writing this afternoon with a letter or telegram from their officers.

DR. SWITZER: This is a letter from the President.

THE SPEAKER: Which conforms to the afternoon ruling. The Chairman of the Credentials Committee recommends that Dr. Baker be seated as delegate from Macomb County.

DR. M. H. HOFFMANN (Wayne): I merely want to call attention to this one fact, that if we are hereby breaking our own Constitution in seating this man illegally, that all of the actions of this body can be thrown out entirely, anything that we might do henceforth can constitutionally and legally be thrown out of order and all of our time here consumed may be entirely wasted. We are treading on a little dangerous ground. If this goes through I am certainly only too glad so we can then have certified five extra members from Wayne County.

THE SPEAKER: Those in favor of the recommendation of the Chairman of the Credentials Committee make it manifest by saying "aye," those opposed say "no." It is carried. Wayne will now have seven more men. While waiting for the increase in membership, I will ask the Secretary to read the report as given by this special committee on barbituric acid.

THE SECRETARY: This is not, Mr. Speaker, a report, but is certain correspondence which has been given me by Dr. Slemons, who is a member of that committee.

The Secretary read a number of letters pertaining to the subject.

THE SPEAKER: Continuing the recessed order of business, the next report is that of the Chairman of the Committee on Economics, Dr. W. H. Marshall, Chairman.

## REPORT OF COMMITTEE ON ECONOMICS

DR. W. H. MARSHALL: In this momentous period of social reconstruction on which we have entered, socio-economic studies should have a leading place in the activities of every thoughtful man. It is especially the duty of the educated physician to devote much thought to this subject, if we are to emerge from the confusion of political, economic and religious thought which obtains today in the entire civilized world. We must realize that democracy will survive only if the majority of the people think intelligently.

While the personnel of the Committee on Economics was not announced until January, a great deal of work has been done. We trust that the quality of our work will meet your approval, and also that you will have a clearer insight into some of the issues confronting the medical profession.

First of all, we directed a survey of the efficiency of the postgraduate program which we advocated last year and which was tried out in an experimental way. The material after due analysis was submitted to a subcommittee consisting of Dr. C. G. Jennings, Dr. J. E. Davis, and Dr. R. D. McClure. We are greatly indebted to them for a critical review of this subject. We believe their conclusions and recommendations to be sound and we trust that they will meet your approval. You have already received this report and no doubt have read it carefully.

Your committee approves of the recommendations of the subcommittee.

At this time I will call on Dr. J. E. Davis of the committee to say a few words.

DR. J. E. DAVIS: Mr. Speaker, the report of the subcommittee on postgraduate medical education for general practitioners, as you know, is some forty pages long, and it is inappropriate to read any more than some of the conclusions and recommendations.

Dr. J. E. Davis read the following Conclusions and Recommendations, Chapter IV of the report of the subcommittee.

## REPORT OF SUBCOMMITTEE ON POSTGRADUATE MEDICINE FOR GENERAL PRACTITIONERS

### Chapter IV.

#### Conclusions and Recommendations

While your committee concedes that postgraduate medical education is an activity in which all physicians should engage, the complete preceding report and the succeeding recommendations deal with the needs of the general practitioner. Without in any sense minimizing the problem of continued education for specialists, your committee believes that the "greatest good for the greatest number"—among both the profession and the public—lies in efforts directed toward the improvement of general practice. In view of the brevity of the report, it is unnecessary to present a detailed summary of the progressive experience and experiment in Michigan. The evidence presented is conclusive that your committee has before it the following primary consideration:

**How shall postgraduate education be stabilized as an integral and continual process in the professional life of the general practitioner?**

The word "education" means "a systematic development and cultivation." Your committee believes that the instability and sporadic character of postgraduate medical education thus far has contributed in no small measure to the physician's lack of interest. Desultory and superficial programs have characterized too many postgraduate educational attempts throughout the country and the result has been desultory and superficial interest.

An educational institution is largely compounded from three elements: physical facilities, faculty, and students. Therefore, the development of postgraduate medicine as an educational institution must depend upon the attention to, the development of, and the success in balancing these elements. Looking toward postgraduate medical education as an eventual national institution, your committee's recommendations are centered upon the problems of physical facilities, faculty and course, and students.

#### Physical Facilities

The experience of the past year has demonstrated the potential values of local teaching centers. The resources of the hospital with its excellent and abundant clinical material, as a center of medical education, have barely been tapped. The location of teaching centers, therefore, must be based upon the following general considerations:

1. Availability of the center to the greatest number of physicians within a radius of approximately 50 miles.
2. Adequacy of hospital facilities both with respect to lecture and demonstration rooms and clinical material.

Exclusive of the major centers of medical education—Wayne and Washtenaw Counties—and with the above criteria in mind, your committee recom-

mends that teaching centers be continued in the experimental communities—Grand Rapids, Flint and Battle Creek-Kalamazoo—and that other centers be established as soon as is compatible with sound progress. Two additional centers in the northern part of the Lower Peninsula should suffice for the needs of physicians practicing in that area. In establishing these centers, it may be necessary to extend the fifty mile radius because of the comparatively small number of physicians practicing in sparsely populated counties.

In the Upper Peninsula, sparsely populated counties and widely distributed physicians make the choice of the location of centers especially difficult. Your committee recommends that, as early as possible, a teaching center be established in the western part of the Upper Peninsula because of the concentration of physicians in that geographic area, and that further study be given to the problem presented by the eastern area.

In making these recommendations your committee stresses the fact that while the suggested new centers cannot expect to show numerical attendance results equal to the already established centers, they will actually be fulfilling a need for postgraduate education much more acute than that in the more populous sections of the state.

#### Faculty and Courses

Nothing will so contribute to the stability of postgraduate education as a permanent faculty and a regular course of study. Your committee feels that these two factors are fundamental to the success and progress of any educational program. They constitute an application of the principles applied in pre-medical and in medical education. Failure to apply the principles probably accounts for the wide gap separating undergraduate and postgraduate training and for the too evident lack of interest of medical faculties in the student who has completed the formal course of training.

In order to accomplish the purpose of a permanent faculty, your committee recommends that those charged with the duty of developing postgraduate education shall appoint a "Postgraduate Faculty" including professors, associate professors, assistant professors, instructors and special lecturers. Members of the faculty might be drawn from the medical schools of the University of Michigan and Wayne University as well as from the membership of the Michigan State Medical Society. Your committee feels that it cannot stress too greatly the need of developing among the undergraduate faculty a greater feeling of responsibility for and a routine participation in postgraduate teaching.

Courses offered to the general practitioner should be in the form of a regular curriculum extending over a period of years. In making a decision concerning the curriculum it is necessary to apply some arbitrary judgments until the results of experience are available. Your committee, therefore, recommends the development of a five-year postgraduate curriculum with a reduction, for the present, from the eleven-day curriculum of the past year to an annual eight-day curriculum. The annual eight-day curriculum should not prove burdensome to present facilities and resources, and, as these improve, consideration may be given to necessary increases in the annual courses of study.

In recommending a five-year or forty-day curriculum, your committee wishes to make clear the point that the program is not intended to complete the postgraduate training of the general practitioner.†

†The committee assumes the continuation of short intensive courses for general practitioners at the teaching centers in Ann Arbor and Detroit.



It conceives the program as one to be completed at intervals of five years during the entire professional life of the physician from internship to retirement. Accumulations of new knowledge are constantly occurring in practically all fields of medicine and, at frequent intervals, each physician should acquaint himself in a routine manner with the newer knowledge. In the preparation of the curriculum it is suggested that some attention be given to the inclusion of the basic sciences. To physicians in practice these sciences assume a vitality and value far greater than those experienced during his pre-clinical training.

### Students

The purpose of the postgraduate program is to transform every general practitioner in the state from a potential to an actual student of the advances in medicine. Playing important rôles in this transformation are the foregoing recommendations dealing with facilities and faculty.

It has been the custom for physicians who expend time and effort in acquiring special knowledge to obtain appropriate recognition from their colleagues and the public. The recognition takes the form of membership in a special organization and serves as a mark of accomplishment. That this form of recognition exists is one of the finest tributes to the profession.

Your committee recommends the application of the same principle of professional and public recognition to the general practitioner. More specifically it is recommended that the Michigan State Medical Society grant "Honorary Fellowships" and "Fellowships in Postgraduate Medicine" in accordance with requirements adopted, or, from time to time, changed by appropriate action. In order to accomplish this purpose, your committee recommends such additions or changes in the constitution of the society as may be necessary.

As a second measure of recognition, your committee recommends that the Michigan State Medical Society grant a "Certificate of Attendance in Postgraduate Medicine" to all general practitioners who complete the schedule of courses or an appropriate portion of the schedule or offer other acceptable evidence of postgraduate study during any one year. The "Certificates of Attendance" should serve as the basis for the appointment of members to Fellowships in Postgraduate Medicine.

Your committee visualizes the application of these recommendations in the following manner:

**A general practitioner who completes a maximum of eight or a minimum of six days of the postgraduate curriculum would receive an annual Certificate of Attendance. In lieu of the work in the postgraduate curriculum, he might offer other evidence of formal postgraduate training which would entitle him to the certificate.**

**Five Certificates of Attendance over a period of eight years would qualify the general practitioner for the Fellowships in Postgraduate Medicine, and twelve Certificates over a period of twenty years, to the "Honorary Fellowship."**

By this method your committee visualizes an orderly sequence of postgraduate education in the life of the physician from the first Certificate of Attendance to the Honorary Fellowship. The magnitude of the task is great but only through its accomplishment will postgraduate medical education "be

stabilized as an integral and continual process in the professional life of the general practitioner."

Respectfully submitted,

C. G. JENNINGS, M.D., Detroit

J. E. DAVIS, M.D., Detroit

R. D. McCLURE, M.D., Detroit

Subcommittee on Postgraduate Medical Education.

THE SPEAKER: This portion of the Economic Committee's report will be referred to the Reference Committee on Standing Committee Reports, Dr. Foster, Chairman.

Dr. Marshall, you may continue.

DR. MARSHALL: Our major task this year has been a detailed study of the medical phases of relief administration. In our summary, which you have already received, there is a brief outline of our methods of approach. The committee desires to express its appreciation of the work of the subcommittee appointed to assist in the analysis of the material. At this time we will call upon Dr. Stanley Insley, Chairman of this group, to present a summary of the study.

DR. STANLEY INSLEY: This is a report prepared by the state sub-committee on the FERA survey of relief medicine.

Dr. Insley read the report as follows:

### REPORT OF THE SUBCOMMITTEE ON THE FERA SURVEY OF RELIEF MEDICINE

#### Introduction

Modern economics and social thought insist that necessary medical care is a basic necessity of life and is in the same category as housing, clothing, food, fuel, and light.

This premise being true, it becomes an obligation of the communities and governments to supply medical necessities when needed and upon the same basis as the other recognized necessities. A relief applicant when cold is sheltered; so must the cure of disease be furnished. An applicant when hungry is fed; so must the relief of pain be provided. It is the humane practice of appropriate agencies to accept an applicant's word that he is cold, unsheltered or starving. His complaint of illness must likewise be honored.

It is our next contention that the *purveyors* of medical necessities ought (from an administrative standpoint) to be treated in the same fashion as are the purveyors of other forms of relief.

Medical relief is, after all, but one phase of the general relief problem. This indicates one fundamental reason for holding medical relief under a general welfare organization. To place relief medicine under a new agency or the boards of health would be an absolute sacrifice of professional and business autonomy.

For example—public health activities include surveys and partial regulation in the food industries. Boards of health, however, do not own, or administer the industry itself. We, as physicians, seek no more or no less than ordinary fair play and prefer to be treated as other private business individuals.

Relief agencies have always purchased their required non-medical necessities on the open market. Medical necessities should also be purchased by relief agencies in a similar business-like fashion—a decent quality at a fair figure if, as, and when needed.

#### Survey Proper

The FERA survey of medical services was made possible through governmental monies. It was initiated, directed, and summarized by Nathan Sinai, Dr.P.H. This gentleman should be cited for his intense interest in medical economics and for his

genuine concern over the personal welfare of physicians in general. It is an entirely unusual combination in a man with essentially a non-medical training.

Dr. Sinai deals first with 1934 costs and amounts of services rendered. This is followed by certain suggestions as to costs and amounts of services to be rendered in the future. There are still further recommendations as to what governmental agency should administer the future programs.

It should be pointed out immediately that Dr. Sinai's "cost" figures are in reality not "costs" as we understand the term. The figures simply denote the amount of monies expended by governmental agencies. His figures do *not* reflect the costs incurred by the physicians or dentists who, in order to give necessary services, treated cases beyond the authorized limit of visits and beyond the procedure and types of illnesses allowed under the ERA rules and regulations. His summary of home and office calls made and special services rendered is for the same reasons an entirely inadequate record. The allied health professions and the proper welfare agencies should be acquainted with these glaring errors, so obviously overlooked.

Sinai's survey on so-called "costs" and "services" did, however, perform a most useful purpose. It brought out very graphically the wide range of services allowed under different local administrators. It showed the pinch-penny attitude and the narrow-minded lack of health-consciousness of certain interpreters of Section Seven of FERA regulations. It also showed the liberal, broad-minded, and sensible health interpretations made, for example, in Oakland County. Incidentally, the county furnished a most beautiful example of a full-time medical director (an M.D.) working in excellent coöperation with a relief administration and the health profession. The allied professions, the public, and the government seem satisfied in this community.

Sinai's survey next set up arbitrary standards for future services to be allowed. Two questions arose: Were we, as physicians, to countenance, endorse, or propose a program of admittedly low quality and restricted amounts of service? Next, were we, in our *necessary* rôle as business men, to compromise ourselves by offering an inferior article of doubtful quality and even of short measure?

The Committee concluded that an average type of necessary home, office and hospital care, to be rendered, if, as, and when needed, would be most satisfactory to the physicians, the governments, and the public.

Sinai's suggested fee schedules for individual home, office and special services were next considered. The Committee thoroughly recognized that, for statistical purposes, an arbitrary figure for home call, office call, or operation might have to be used. The figures for ordinary services as used by Dr. Sinai were approximately fifty per cent of the average fee for similar services in average mass medical practice.

Physicians' average fixed and variable overhead costs for average services per large unit of populations is between forty and fifty per cent of the total fee charges. Now then, we are desirous to further the cause of relief from pain and cure of disease and we are also conscious of our obligations to the various governmental units. As a consequence, the Committee suggests a continuation of the theory of a fifty per cent fee schedule, which approaches very closely the costs to physicians for rendering medical service. The amounts suggested for home, office and night calls might well be tentatively accepted for the wholesome purpose of seeing a decent program initiated. The individual amounts for individualized *special* services might also be tentatively accepted

and later confirmed or altered through coöperation of state and local advisory boards.

The Committee does not feel it incumbent upon itself to speak for the other allied health professions whether in regard to the amounts of past expenditures found, suggested future services, or proposed fees to be accepted. Any pronouncement upon our part would be tactless to say the least. We simply point out that under Dr. Sinai's suggested new schedule most health groups will be working under a fifty per cent reduction of average total charges. (The theory of these deductions has been already referred to.) Hospitalization is an exception to this discount rule. Dentistry is another exception. Dental fees, per 1,000 relief population, are to be the lowest of all groups in relation to the total average charges in normal practice. On the other hand, Dr. Sinai's suggested schedule represents a marked improvement from the old dental program or lack of dental program of the FERA.

Dr. Sinai's survey suggests that a patient be allowed the privilege of selecting either a physician or dispensary as his family doctor. The members of this Committee, as practicing physicians, are absolutely opposed to this suggestion. The Committee, as practicing physicians, knows the limitations of decent quality and also of other dangers inherent in the mass production of medical services through certain clinics. Numerous arguments which might be brought forth in support of our position are strengthened by the experiences gained in the actual rendering of the medical services. Any non-medical argument or position does not have this background. Finally, the National Administration, speaking through the FERA and Bulletin Number Seven, pledged itself to the maintenance of a personal patient-family physician relationship. Subsidized clinics, competing with private physicians, would be a violation of that pledge.

Dr. Sinai suggests the possible use of small regular wage deductions from the work project laborers' pay checks. The committee is unalterably opposed to such a suggestion.

## Conclusions

The Committee will confine its conclusions and recommendations to the broad aspects in the Sinai report, and to relief medicine to the relief client only, whether employable or unemployable.

We summarize:

1. Medical care is a basic necessity and must be made available to relief clients upon the same grounds as are other basic necessities.
2. The payment for the rendering of medical necessities must be made upon the same business-like basis as payment for the other basic necessities.
3. A suggested program of medical relief should include the following features:
  - (a) Ability to provide complete amounts and types of average necessary medical care if, as, and when needed.
  - (b) Ability to provide and maintain a decent *quality* of care.
  - (c) Provision of sufficient monies to supply the amounts and quality of services indicated.
  - (d) Absolute preservation of the personal patient-private physician relationship.

## Recommendations

1. That the suggested fees for home, office and night calls, be *tentatively* accepted.
2. That the State Medical Society appoint a committee to interview physicians in various localities so as to ascertain average fees for *special* services.
3. The average fees for special medical services, so determined, be used as a basis for a horizontal cut which may then be used as a satisfactory schedule to *indigents only*.



4. We suggest a tentative horizontal cut of 50 per cent for these *indigents only*.

5. Medical relief expenditures cannot be limited by an inflexible budget, subject to premature exhaustion, and therefore all medical relief expenditures should be based upon the actual rendering of a unit service, whether of ordinary or special character.

6. The administration of medical relief should be directed through a state-wide organization. This organization should be a division of a general relief agency with the administrative aid of a medical director. The welfare agency should also have a professional advisory board, composed of physicians, dentists, pharmacists, nurses and hospital executives.

7. The monies for medical relief should be furnished through State finances, aided where possible from county sources and subsidized, if necessary, by Federal contributions.

8. A competent representation or committee of the Michigan State Medical Society should be appointed immediately and empowered to confer, and advise with the appropriate welfare officials so as to work out the proper administrative, technical, and distributive machineries of these medical suggestions and recommendations.

STANLEY W. INSLEY, *Chairman*  
HAROLD A. MILLER  
T. K. GRUBER  
V. M. MOORE.

THE SPEAKER: This portion of the Economic Committee's report will be referred to the Reference Committee on Standing Committee reports.

DR. MARSHALL: Your committee approves of the report of the subcommittee, but we would desire a full discussion of the following points:

1. Is the budget, as presented, acceptable as a tentative schedule?

2. What shall the method of administration be? Is the plan of the subcommittee entirely acceptable, that is, administration by the present welfare board?

Or would a separate administrative agency be more desirable?

Or should administration by a deputy administrator of health under the State Department of Health be considered?

3. Shall we recommend a uniform plan of medical relief in the state? Our study in ten counties leads us to the conclusion that administration by a uniform method throughout the state is highly desirable. We further recommend that a medical man be placed in charge of such a program. Such a physician should have the point of view of the profession; he should see eye to eye with medical men in the problems of administration of medical relief. If Dr. R. G. Tuck is available, he embodies such a point of view and has, moreover, demonstrated administrative ability commensurate with the responsibilities of the office.

4. Your committee recommends the continuance of the subcommittee to carry on the medical relief program in collaboration with the various state agencies. It would seem, also, that the personnel of the subcommittee might advisably be increased as the scope of the work enlarges. The problems are apt to multiply and become more complicated and the committee might well have the status of a commission.

5. With regard to a program of study for the Economics Committee for the year 1935-36, your committee recommends consideration by the House of Delegates of the following subjects:

1. Group hospitalization.
2. A detailed study of industrial medicine.

## Group Hospitalization

It is becoming manifest that the public as well as hospital administrators, from New York to California, are becoming interested in group hospitalization or hospital insurance. Stated briefly, this plan offers hospitalization on a voluntary insurance basis to small salaried employees and wage earners. Beginning in Dallas, Texas, about five years ago, it has spread to many states and many cities are considering plans at this time. In New York City, 100 hospitals have formed a non-profit Associated Hospital Services of New York.

Group hospitalization is not operated for profit and if properly organized leaves hospital matters in hospital hands and medical matters in medical hands. Where it is in operation, physicians report prompter and more complete settlement of doctors' bills.

Already this question has become acute in parts of Michigan; therefore, we should be in a position to assume leadership in the organization of suitable plans. The Canadian Medical Association has recently issued a bulletin which deals very thoroughly with the subject. It is of interest to note that the Canadian Medical Association has also endorsed the movement.

We recommend that the Committee on Economics be instructed to undertake a study of group hospitalization and that they be prepared to report within sixty days on the advantages and disadvantages of the various plans in operation. Such a report would require no field work, for there is an abundance of recent literature on the subject.

## Industrial Medicine

The last twenty-five years have witnessed an economic transformation in Michigan. The rise of many new and varied industries has wrought profound changes in our social and economic life, and has given rise to many new problems affecting producer, consumer, worker, and doctor.

The organized medical profession has shown little concern with this rapid evolution of industry and with the problems of industrial medicine. In the year when the Workmen's Compensation Act was adopted, our medico-legal committee reported that there had been no legislation passed that would affect the physician.

Probably it is not generally known that Governor Fitzgerald has appointed a commission to investigate the need for inclusion of occupational diseases under the Michigan Workmen's Compensation Act. In view of this official step, the profession might well offer its cooperation to the Governor's Commission in its work.

The administration of medical service in industry has developed in a haphazard manner. Even some of our largest plants have medical departments that are planned with a singular lack of vision. The manufacturer, harassed by the endless problems created by the Workmen's Compensation Law, has established plant medical departments without consulting our profession. As a result, blunders have been made costly alike to the manufacturer, the worker, and the doctor. Occasionally we become perturbed about a particularly vicious contract practice and the expansion of medical practice by corporations.

The only way to see the problem of industrial medicine rightly is to see the whole of it. Industry will most certainly make increasing demands on medicine. We believe that we can offer more leadership than the manufacturer today cares to acknowledge. A thorough study of the situation should be made by the medical profession in cooperation with the manufacturer and the laborer. There are innumerable problems involved—scientific, economic, sociologic and ethical.

Therefore, we recommend that the Committee on

Economics be instructed to devote one year to the study of these problems, in the hope that industrial medicine in Michigan may be elevated to a higher plane and its present objectionable features eliminated.

Respectfully submitted,  
Committee on Economics,  
W. H. MARSHALL, *Chairman*.

I wish to supplement this report with a few personal remarks. For the fourth year I have come before you with a report on medical economics. It has become a habit. There is an old Greek saying—"All habits are bad, good habits especially." I agree with this viewpoint entirely. I wish to announce that I can no longer continue in this work because of the efforts and sacrifices which it demands. The road to Mecca is very hard and very stony, and the worst of it all is that one never quite gets there after all.

One thing I have learned—not to yield to the desire to exceed one's program. There is a danger of spreading out our activities so that they are too thin. I am convinced that a Committee on Economics can accomplish more by concentrating on one topic at a time and by analyzing it as efficiently as possible.

I wish to thank those of you who have worked with me on committee work, the Council for its splendid support, and the House of Delegates for tolerance in listening to viewpoints that may have upset previous socio-economic ideas.

THE SPEAKER: The complete report of Dr. Marshall is referred to the Reference Committee on Standing Committee Reports.

The Speaker would like to announce to the membership that you are to sign a slip with your name, which represents the roll call for this afternoon's session. It is very important because that roll will be published in the JOURNAL, and that is the record that we were here.

THE SECRETARY: Mr. Speaker, at the request of President Smith as a demand from the Society at large, the Economics Committee appointed a subcommittee to consider the difficulties that confronted us in the passage of the new Afflicted Child Bill. That report of the Economics Subcommittee was sent to every member of the House of Delegates. It would seem that that perhaps ought to be referred to the appropriate committee.

DR. MARSHALL: Gentlemen, it was only three or four weeks ago that President Smith wrote to me and asked us to send to you the status of the Afflicted Child Act up to date. We endeavored to do so and you received that report. However, we have no recommendations to make.

Dr. Marshall presented the report on the Present Status of the Care of Afflicted Children in Michigan.

### REPORT ON PRESENT STATUS OF THE CARE OF AFFLICTED CHILDREN IN MICHIGAN

(For text of this report see October, 1935, JOURNAL, page 636.)

THE SPEAKER: The Speaker of the House will refer that portion of the report also to this Reference Committee on Standing Committee reports.

DR. SWITZER: Mr. Speaker, I would like a ruling from the Chair. The President of the Wayne County Society has appointed and the Secretary has certified the following men as delegates: J. E. Davis, C. F. Kuhn, E. E. Martmer, G. E. Woldblatt, and H. R. Carstens. Only one of these men, Dr. Davis, has presented his credentials to me, however. I would ask that Dr. Davis be seated.

THE SPEAKER: For those who were not present earlier in the session, the matter of seating members

of the medical profession and accredited delegates at this meeting was discussed. The House of Delegates decided that any member of the medical profession who came with a letter from the officers of his society stating that he was a representative of that society was entitled to a seat in the House of Delegates. That has been the ruling on similar cases.

DR. A. V. WENGER (Kent): I make a motion that Dr. Davis be seated.

The motion was seconded and carried.

THE SPEAKER: Is there any unfinished business from this afternoon's session?

We will now proceed with that part of the program under Resolutions and New Business.

DR. W. C. ELLET (Berrien County): Mr. Speaker, after that excellent committee report of the Legislative Committee this afternoon, several of us who were quite pleased thought that some resolutions should be drawn up in support of that committee report. I have here these resolutions:

WHEREAS, The time-tried principles underlying the practice of medicine are being attacked by powerful influences, and

WHEREAS, The medical profession is being forced to defend and fight for its tenets, in order to preserve good medical care for all the people, therefore be it

RESOLVED, That the House of Delegates of the Michigan State Medical Society instruct the Legislative Committee to adopt a vigorous and continuing protective program organized as follows:

1. A definite program of action shall be established; all legislative bills and other proposals shall be prepared during the non-legislative year and approved by the Council.

2. The program shall be integrated throughout all county and district medical societies, which shall be stimulated to develop active legislative committees, working on the uniform policy adopted by the State Society.

3. The chairman of the Legislative Committee of the State Society shall keep the chairmen of the legislative committees in all county and district medical societies informed of any legislation relating to medicine that is contemplated or in process of passage; the local chairman should, in turn, pass word along to the members of his committee. Each member of the Michigan Senate and House of Representatives in the particular county or district shall be covered by at least one physician, preferably the family physician. The key man shall contact the legislator frequently, become his friend, and give advice on legislation relating to medical practice. In advance of the biennial election, all candidates for offices which touch the practice of medicine shall be contacted and records of all such contacts and the viewpoint of each legislator shall be kept on file in the executive office of the State Society; and be it further

RESOLVED, That an executive secretary be appointed immediately to coordinate all these activities and institute new programs deemed requisite by the State Society. When necessary, he should be assisted by a legislative observer appointed by and under the guidance of the Legislative Committee. The appointment shall be ratified by the Council of the State Society. The work of this aide shall be arranged by the Executive Secretary, upon instructions of the Legislative Committee.

RESOLVED, That the By-laws of the Michigan State Medical Society be amended to provide the following: that the Legislative Committee consist of seven members, five to be appointed as at present, the sixth member to be the President-Elect of the State Society, and the seventh member to be the Chairman of the Council of the State Society. The President of the State Society shall be a member ex officio.

RESOLVED, That the Legislative Committee of the Michigan State Medical Society give due consideration to the following matters:

- (a) Basic science laws.
- (b) Practice of medicine by corporations, insurance companies, and hospitals.
- (c) Integration of medicine.

THE SPEAKER: Referred to the Reference Committee on Resolutions, Dr. Insley, Chairman.

DR. CLYDE HASLEY (Wayne): I wish to present a resolution for the consideration of the House of Delegates. By way of introduction I should like to read a letter from our Editor. I think it is self-explanatory and will lead up to the resolution.

My dear Doctor: A number of roentgenologists of the state have expressed themselves to the effect that roentgenology should receive recognition in the way of a section on x-ray and radium. Roentgenology, or radiology in its



broadest aspects of diagnosis and treatment, concerns every department of medicine and surgery and allied specialties. The idea is not that radiologists segregate themselves as a group and present papers that concern the group only, but to be of use to the entire field of medicine in various ways, among them witness the x-ray exhibit at the present annual meeting.

The subject of x-ray and radium therapy is assuming such universal importance that an intelligent understanding of the scope and limitations concerns every practicing physician even though he may not personally use either one of these agents.

The detail of programs can be worked out by those most competent to do so.

Recognition of radiology as a section of the Michigan State Medical Society would go a long way toward stimulating the most effective use of both radium and x-ray as therapeutic agents and the x-ray in diagnosis.

Very truly yours,

(Signed) J. H. DEMPSTER.

Now the resolution:

WHEREAS, Radiology as a specialty has assumed an important place in all branches of medicine and surgery, both in diagnosis and treatment, and

WHEREAS, It is the desire of the members of the Michigan Association of Radiologists to form a section of Radiology, therefore be it

RESOLVED, That the House of Delegates of the Michigan State Medical Society request the speaker to refer this resolution to the Committee on Resolutions to study the advisability of forming such a section, and to report back at the next session of the House of Delegates with its findings and recommendations.

THE SPEAKER: Referred to the Reference Committee on Resolutions.

DR. A. G. SHEETS (Eaton) (Reading communication):

To the House of Delegates, Michigan State Medical Society: The Eaton County Medical Society, now a member of the Third Councilor District comprised of Branch, Calhoun, Eaton and St. Joseph Counties, because of the disadvantage of their geographical location in relation to the rest of the Third Councilor District, and because of the more adjacent location of the Second Councilor District, comprised of Hillsdale, Jackson and Ingham counties, also because of the more intimate professional and social relationships of the Eaton County Society's membership with the membership of the profession in the Second Councilor District, therefore respectfully petition the honorable House of Delegates to take such steps as are necessary to accomplish a transfer of the Eaton County Society from the Third to the Second Councilor District.

THE SPEAKER: Referred to the Reference Committee on Resolutions.

DR. E. F. SLADEK (Grand Traverse-Leelanau) (Reading communication):

To the House of Delegates, 1935 Annual Meeting of the Michigan State Medical Society: The physicians of Benzie County have no official recognition as a part of organized medicine, except as each one individually joins one of the established neighboring county medical societies. The Grand Traverse-Leelanau County Medical Society has extended to them an invitation to become a part of organized medicine. A majority acceptance was received. Therefore be it

RESOLVED, 1. That this House of Delegates grant permission to the Secretary of the Michigan State Medical Society to so change the charter of the Grand Traverse-Leelanau County Medical Society so as to officially permit territorial inclusion of the physicians of Benzie County.

2. That the name of the Grand Traverse-Leelanau County Medical Society be changed to the Grand Traverse-Leelanau-Benzie County Medical Society.

THE SPEAKER: Referred to the Reference Committee on Resolutions.

DR. SLADEK (Reading additional communication):

To the House of Delegates, 1935 Annual Meeting of the Michigan State Medical Society: Dr. Arthur S. Rowley of Traverse City, having attained the age of seventy years and having been in retirement from the active practice of medicine for the past two years, wishes to make application under Section 5, Article 3, of the Constitution of the Michigan State Medical Society for transfer to the retired members roster, to take effect in 1936.

Dr. Rowley was a charter member of the Grand Traverse County Medical Society and its first president, and although his work has been confined to institutions he has always had a great interest in the problems of the general practitioner, and should deserve this consideration.

THE SPEAKER: Referred to the Reference Committee on Miscellaneous Reports, Dr. Andrews, Chairman.

DR. SWITZER: The Credentials Committee wishes a ruling on the admission of Dr. Henry Carstens, Dr. Woldblatt, Dr. Robert A. MacArthur and Dr. Claire Straith of Wayne County.

DR. J. M. ROBB (Wayne): I move they be seated.

The motion was seconded.

DR. PHILIP RILEY (Jackson): I would like to have Dr. Hirschman read that paragraph again. A little while ago they maintained it was an emergency. I don't see any emergency now.

DR. SWITZER: The emergency would be seating a Councilor as a delegate. The ruling would be in favor of those who had credentials signed by the President and the Secretary. The exception was the seating of a Councilor as delegate.

DR. L. J. HIRSCHMAN (Wayne): There was an emergency existing, not in the way in which the Chairman of the Credentials Committee indicated, however. I personally think that it is not good practice to seat a Councilor as a delegate, with all due respect to my good friend Dr. Carstens and to Dr. Baker. The emergency that I referred to was the fact that the Councilor district which was about to elect a new Councilor had so few representatives that it would not be fair for one or two delegates to select a Councilor. The emergency that I referred to was the fact that that district should have full representation. With due respect to my friends in my own county I do not think such emergency exists. (Applause.)

DR. STANLEY W. INSLEY (Wayne): How were the four members seated this afternoon? Was that an emergency measure or not?

DR. HIRSCHMAN: May I answer, inasmuch as I was guilty of moving that one of them be seated? That was an emergency because every one of those delegates represented counties that were represented by only one or two delegates; they were all small counties, and I don't think any county of this state should go unrepresented if there is a man here who is duly accredited by his county officers to represent them. I am sure that Wayne County is well represented, both in quantity and quality.

DR. J. M. ROBB (Wayne): It withdraw my motion.

DR. SWITZER: One of these delegates, Dr. Davis, was seated. The other four had not yet handed me their credentials so they were not seated at that time. Now you refuse to seat the other four.

DR. I. W. GREENE (Shiawassee County): I move that these doctors mentioned, with the exception of Dr. Carstens, be seated as delegates.

DR. LOUIS J. GARIEPY (Wayne): I support that motion.

THE SPEAKER: Is there any discussion?

The question was called for.

THE SPEAKER: Those in favor say "aye," opposed "no." It is carried.

DR. ROY H. HOLMES (Muskegon County): I wish to introduce two short resolutions:

WHEREAS, The medical examination of applicants for life insurance is an important part of the work of practicing physicians, and

WHEREAS, The activities of certain insurance companies and societies have been to the direction of basing the fee for medical examination on the type and amount of insurance requested, and

WHEREAS, This tends to lower the standard of practice, be it, therefore

RESOLVED, That a committee of the House of Delegates be appointed with authority to rate the type and scope of each class of medical examination and publish such rating in the Michigan State Medical Journal for the information of the county society.

THE SPEAKER: Referred to the Reference Committee on Resolutions.

DR. HOLMES (Reading second resolution):

WHEREAS, The Crippled Children's Commission apparently is, and has been, illegally taking funds which the legislature has designated to care for all afflicted indigent children and is using these funds for the care of orthopedic cases, leading to the neglect of other afflicted children, and

WHEREAS, The Crippled Children's Commission, through its executive secretary, has arbitrarily dictated to physicians of this state in matters which ethically should be decided only by the doctor and his patient, and

WHEREAS, There is a system of solicitation of patients by paid employees of the Crippled Children's Commission and its allied societies, believed to be contrary to the ethics of the American Medical Association, be it

RESOLVED, That a committee be appointed from the House of Delegates to investigate the activities of this Commission and those interested in these unethical procedures; this committee to report promptly to the Executive Council of the Michigan State Medical Society with recommendations.

THE SPEAKER: Referred to the Reference Committee on Resolutions.

DR. J. J. WALCH (Delta County): Copies of these proposed changes in the By-laws of the Michigan State Medical Society will be passed around so you can follow me as I read.

The first part of this is new, but the proposed new Section 5 on down to 10 is old; No. 10 is new. On the second page you will note some of the present activities and the proposed new activities to be instituted.

## PROPOSED CHANGES IN BY-LAWS OF THE MICHIGAN STATE MEDICAL SOCIETY

### CHAPTER 4—DUTIES OF OFFICERS

Proposed new Section 4. The Secretary, an active member of the Michigan State Medical Society, shall be elected by the House of Delegates to serve one year. He shall act in official capacity at the meeting of the House of Delegates, and in an advisory capacity at other times. The Secretary shall be a member of the Council ex-officio.

Proposed new Section 5. The executive secretary, not necessarily a physician or member of the Michigan State Medical Society, shall be the custodian of all the records of the Society, shall conduct all the official correspondence of the Society at the direction of the House of Delegates, the Council, the Officers and the committees of the Society. He shall be the recording officer of the House of Delegates, the Council, Scientific Assembly and the General Meeting. He shall also discharge the following duties:

1. Collect the annual membership dues and such other monies as may be due to the Society, keep membership records and issue membership certificates.

2. He shall make all required reports to the American Medical Association.

3. He shall deposit all funds received in an approved depository and disburse them upon the order of the Council. The Council shall cause an annual audit of his accounts by a certified public accountant. He shall render an annual report to the Council reviewing the Society's activities and imparting recommendations for the advancement of the Society's interest.

4. He shall perform such other duties as the Council may direct. Under the direction of the Council he shall be the Business Manager of the JOURNAL, performing all duties concerned with the issuance of that publication.

5. He shall superintend all arrangements for the holding of all meetings in compliance with the Constitution and By-laws and the instructions of the Council.

6. He shall send out all official notices of meetings, committee appointments, certificates of election to office and special duties of committees.

7. He shall receive and transmit to the House of Delegates and to the Council all committee and officers' annual reports.

8. He shall be elected by the Council and shall be remunerated by a salary, the amount of which shall be fixed by the Council, and approved by the House of Delegates.

9. He shall perform all such other secretarial duties that the interests of the Society demand.

10. He shall institute and correlate all new activities, as approved by the Council, and shall work on the program of a state organization of professions interested in health, on county society integration, and on continuous information to the public concerning health matters.

Proposed new Section 6. (This shall be the same as former Section 5, merely being renumbered.)

### PRESENT ACTIVITY AND PROPOSED NEW ACTIVITY OF MICHIGAN STATE MEDICAL SOCIETY

A great many changes have been made in the past four years, many are in the process of making, and many will be completed in the next two or three years. It is asking too much of a part time medical secretary to be conversant constantly with the mass of new material being presented, and at the same time correlate it with the old.

To make for efficiency, a physician-secretary should be named as at present, his position to be of an advisory nature. In addition, an executive secretary should be appointed *immediately* to serve on a full-time basis. A business-like contract should be drawn and in readiness for such a position as no qualified individual, be he lay or medical, would consider the offer unless approached in this efficient manner. Nor would any individual who was not business man enough to demand such a contract be worthy of employment by the Michigan State Medical Society.

New plans proposed for the integration of country and district medical societies would be for the best interest of the State Society and for physicians as a whole. The organization of allied professions interested in health problems would be one of the finest moves to emanate from any society.

DR. C. F. MOLL (Genesee): There is some conflict there. It says the secretary shall be elected by the House of Delegates, and then paragraph 8 says he shall be elected by the Council and shall be remunerated by a salary, the amount of which shall be fixed by the Council and approved by the House of Delegates.

DR. WALCH: That is the executive secretary; the other is the secretary.

THE SPEAKER: The Chair would like to make a request of the House of Delegates. Under the provision of the Constitution, at the present time we do not have a Committee on Constitution and By-law changes. It is within your power to make such a recommendation if you wish. The present committees are pretty well loaded with work, and it would seem to the Speaker that a committee of perhaps five to report on matters affecting By-laws which are introduced at this particular session which will be acted on tomorrow morning and become effective immediately might be a desirable committee to have.

DR. KARL BRUCKER (Ingham): I would move that the Speaker be empowered to appoint a committee of five members of the House of Delegates on Revision of the Constitution and By-laws.

DR. LOUIS J. GARIEPY (Wayne): I support that motion.

THE SPEAKER: Is there any discussion? Those in favor say "aye," opposed "no." It is carried. The committee will consist of Brucker, Stapleton, Moll, Gariepy, and Walch.

The Speaker would like to reverse a former decision of his own. There was one portion of a resolution introduced that had reference to the By-laws. He will reverse his former assignment and if the Secretary will assign that portion which had reference to By-laws to this new committee of which Dr. Brucker is Chairman, that will come under their work.

DR. DEAN W. HART (Clinton): A resolution:

WHEREAS, There is now assessed against each member of the Michigan State Medical Society an annual medico-legal fee of about \$2, and

WHEREAS, It has been definitely established that a vast majority of the members of the Michigan State Medical Society carry malpractice insurance policies with commercial insurance companies, and

WHEREAS, There seems to be urgent need for available funds for other more important functions of the Michigan State Medical Society, be it

RESOLVED, That all or part of the medico-legal assessments be diverted to other uses of the Michigan State Medical Society and that the activities of the Medico-Legal Committee be correspondingly curtailed.

THE SPEAKER: Referred to the Reference Committee on Resolutions.

DR. I. W. GREENE (Shiawassee): Resolution:

WHEREAS, Under the present Constitution and By-laws of the Michigan State Medical Society it is impossible for a member of the House of Delegates to be elected as a general officer of the Society, therefore be it

RESOLVED, That under Chapter 3, subsection (m) of the By-laws of the Michigan State Medical Society, the following words be deleted: "No delegate shall be eligible to the general offices of the Society hereby defined as President, President-Elect, Editor, Secretary and Treasurer, but may be eligible as Speaker or Vice Speaker of the House."



THE SPEAKER: Referred to the Reference Committee on Revision of the Constitution and By-laws.

DR. F. T. ANDREWS (Kalamazoo-Allegan-Van Buren): I would like to propose an amendment to Chapter 6, Section 2 of the By-Laws: "The Committee on Legislation shall consist of seven members, the President-Elect of the State Medical Society and the Chairman of the Council of the State Medical Society and five members to be appointed by the President for a term of two years and with the approval of the Council, excepting the first year when the President shall appoint two men for two years and two men for one year."

THE SPEAKER: Referred to the Reference Committee on Revision of the Constitution and By-Laws. Are there any other resolutions?

Tomorrow, in order to introduce new resolutions or new business, you must have the consent of two-thirds of the House of Delegates except matters brought by the Council.

DR. F. J. O'DONNELL (Alpena): Under what classification will the local problems of medical societies put forth in a letter given to the delegate come? Will that come under new business?

THE SPEAKER: I don't catch what you mean.

DR. O'DONNELL: Any local problems.

THE SPEAKER: That can be introduced now.

DR. O'DONNELL: I haven't it in the form of a resolution. Will that be necessary?

THE SPEAKER: No, introduce it.

DR. O'DONNELL: We have a situation in Alpena and the surrounding counties which I think, and the members of the medical profession in Alpena think, is quite complex. We have about a twenty-five bed capacity hospital, managed by a lay board of citizens in the City of Alpena, and during the last three or four years an osteopath moved into our surrounding territory about thirty-five miles from Alpena, and does surgery in our hospital, and one member of our medical society assists him and consults with him. During the past year this osteopath has brought in another osteopath and placed him sixty miles from Alpena, and he in turn brings cases into our hospital in conjunction with his sponsor.

Members of the medical profession practicing in the same community with these men have complained to county officials about their practicing medicine. They received a long letter from the President of the Michigan Osteopathic Society stating the rulings of the Supreme Court showing that they have a legal right to practice medicine. We feel that there is a movement on the part of osteopaths to make very serious inroads on the legal practitioners of medicine in our community, and we are appealing to you as to what procedure to take to remedy the situation and respectfully ask your advice.

THE SPEAKER: That will be referred to the Reference Committee on Reports of Special Committees, Dr. Phil Riley, Chairman.

DR. F. T. ANDREWS (Kalamazoo): May I ask when an application for emeritus standing may be brought up?

THE SPEAKER: It is customary that that matter of election to the standing of a member emeritus comes under elections. Will you call it to our attention at that time.

DR. L. J. HIRSCHMAN (Wayne): I notice on page 17 of the program that the third session is scheduled for nine o'clock tomorrow morning. We have loaded down the reference committees with a lot of work which must be done between now and nine o'clock tomorrow. One committee of which I happen to be a member has been called to meet at eight o'clock. The amount of work put on this committee is so great that it would be impossible to render a report by nine a. m. I merely call this to your attention

so that in calling the meeting tomorrow morning you will delay something the nine o'clock hour.

THE SPEAKER: The time of the meeting tomorrow is subject to the decision of the House. In closing this evening session a motion to adjourn to a certain time will be in order.

Before you approach that point, however, the Speaker wishes it emphatically understood that if anyone has any resolution, new business, special committee report, unfinished business, if the Council has any further report to make, if any officer of the Society or the Secretary has any further report to make, it be made at this time.

DR. T. K. GRUBER (Wayne): What is the length of the House of Delegates meeting?

THE SPEAKER: The length of the House of Delegates meeting is determined by the House of Delegates.

DR. GRUBER: It was my understanding that it was this afternoon, this evening, and tomorrow morning.

THE SPEAKER: The House has the right to adjourn from day to day.

DR. GRUBER: Might it be possible to extend that longer? I don't believe, as Dr. Hirschman says, with all of the data that have been presented this evening, that these committees can possibly digest all that and report tomorrow morning. I would suggest that if there is a way of extending the time we do it.

THE SPEAKER: It is entirely within the rights of this House to adjourn from day to day.

DR. LOUIS J. GARIEPY (Wayne): I move that the committees who are to consider matters proceed immediately and continue with their work until they have finished the same, and we meet tomorrow at nine o'clock as per schedule.

The motion was seconded.

DR. A. V. WENGER (Kent): As a substitute I move we meet at ten o'clock tomorrow morning.

DR. W. C. ELLET (Berrien): I second that.

THE SPEAKER: You are substituting the hour of ten in place of nine.

DR. WENGER: Yes.

DR. GRUBER: I want either to substitute or amend the motion to meet at one o'clock tomorrow.

"No!" from the Delegates.

THE SPEAKER: The amendment is the substitution of the hour of ten for the hour of nine. Those in favor of the hour of ten substituted for the hour of nine say "aye," opposed "no." It appears that the "ayes" have it, the "ayes" have it. A standing vote is called for. Those in favor of the ten o'clock hour instead of the nine o'clock hour stand and remain standing while the Secretary polls the House. Those opposed stand.

THE SECRETARY: Forty-five in favor, 20 against.

THE SPEAKER: The amendment is carried by a vote of 45 to 20. You are now voting on the main motion, which is to meet tomorrow morning at ten o'clock. Those in favor say "aye," opposed "no." It is carried.

A motion was regularly made, seconded, and carried that the meeting adjourn, and the House adjourned at 9:15 p. m.

## Tuesday Morning Session

September 24, 1935

The meeting of the House of Delegates was called to order at 10:00 a. m. by the Speaker, Dr. Henry A. Luce.

THE SPEAKER: The hour of ten having arrived, the House will come to order. Will the Chairman of the Credentials Committee report.

DR. L. W. SWITZER (Mason): The Credentials Committee report a quorum is not present.

THE SPEAKER: In the interval the Chair will introduce Mr. A. M. Smith, an associate member of the Wayne County Medical Society.

DR. SWITZER: The Chairman of the Credentials Committee reports a total of 42 delegates accredited and seated, which constitutes a quorum.

THE SECRETARY: Mr. Speaker, I hold in my hand the accredited roll call of 42 delegates, which makes a quorum.

THE SPEAKER: A quorum being present, the Speaker declares the third session of the House of Delegates now duly constituted.

The following delegates and alternates were present at the session:

Alpena County—F. J. O'Donnell.  
 Barry County—Harkness.  
 Bay-Arenac-Iosco—L. F. Foster.  
 Berrien County—W. C. Ellet.  
 Branch County—R. L. Wade.  
 Calhoun County—C. S. Gorsline and A. M. Giddings.  
 Cass County—W. C. McCutcheon.  
 Chippewa-Mackinac—F. C. Bandy.  
 Clinton County—Dean W. Hart.  
 Delta County—J. J. Walch.  
 Dickinson-Iron—E. M. Libby.  
 Eaton—A. G. Sheets.  
 Genesee County—C. F. Moll, F. E. Reeder and George Curry.  
 Grand Traverse-Leelanau—E. F. Sladek.  
 Gratiot-Isabella-Clare—William Barstow.  
 Houghton-Keweenaw-Baraga—Alfred LaBine.  
 Huron-Sanilac County—D. D. McNaughton.  
 Ingham—L. G. Christian and Karl Brucker.  
 Ionia-Montcalm—J. J. McCann.  
 Jackson—James O'Meara and Philip Riley.  
 Kalamazoo-Allegan-Van Buren—F. T. Andrews and R. G. Cook.  
 Kent County—C. F. Snapp, A. V. Wenger and J. D. Brook.  
 Lapce County—D. J. O'Brien.  
 Livingston County—Harry G. Huntington.  
 Luce County—R. E. Spinks.  
 Manistee County—Kathryn Bryan.  
 Marquette-Alger—Vivian Vandeventer.  
 Mason—L. W. Switzer.  
 Mecosta County—Gordon H. Yeo.  
 Monroe County—D. C. Denman.  
 Muskegon—Roy H. Holmes.  
 Newaygo County—Oscar D. Stryker.  
 Northern Michigan—Fred C. Mayne.  
 Oakland County—Frank Mercer.  
 Otsego - Montmorency - Crawford - Oscoda - Roscommon - Ogemaw—C. R. Keyport.  
 Ontonagon—C. F. Whiteshield.  
 Ottawa—A. E. Stickley.  
 Saginaw—A. R. Ernst and Ralph S. Jiroch.  
 St. Clair—A. L. Callery.  
 Shiawassee County—L. W. Greene.  
 Tuscola—O. G. Johnson.  
 Washtenaw—John Wessinger, Dean W. Myers and John Sundwall.  
 Wayne County—T. K. Gruber, Louis J. Garipey, John L. Chester, W. D. Barrett, R. C. Jamieson, Ralph H. Pino, L. O. Geib, Wm. J. Stapleton, Jr., Stanley W. Insley, Basil L. Connelly, M. H. Hoffmann, R. V. Walker, C. K. Hasley, Frank Kilroy, W. L. Van Duzen, E. D. Spalding, L. J. Hirschman, J. M. Robb, J. E. Davis, George L. Woldblatt, Claire L. Straith and Robert A. MacArthur.

DR. SWITZER: We report the addition of 12 delegates and ask that the following delegates be seated: Dr. Giddings of Calhoun County as alternate, by order of the President.

THE SPEAKER: What is your pleasure with reference to the qualifications of Dr. A. M. Giddings of Calhoun County, who is present by a letter from the President or Secretary of the society?

DR. JOHN WESSINGER (Washtenaw): I move that Dr. Giddings be seated.

The motion was seconded by Dr. L. J. Garipey, of Wayne, and carried.

DR. SWITZER: Dr. J. D. Brook, delegate from Kent County, certified to by the President.

THE SPEAKER: A telegram from the President of the Kent County Medical Society certifying Dr. J. D. Brook qualified as a delegate from Kent County. What is the pleasure of the House?

DR. R. V. WALKER (Wayne): I move Dr. Brook be seated.

The motion was seconded by Dr. J. J. Walch, Delta, and carried.

THE SPEAKER: Will some member of the House move that the slips which are now in the hands of the Secretary constitute the roll call of the House for this morning?

DR. L. J. GARIPEY (Wayne): I so move.

The motion was seconded by Dr. W. D. Barrett, Wayne, and carried.

## REPORTS OF REFERENCE COMMITTEE

THE SPEAKER: The first order of business is the reports of Reference Committees. Reference Committee on Miscellaneous Reports, Dr. Andrews of Kalamazoo, Chairman.

DR. F. T. ANDREWS: You don't want a rereading of the resolution, do you?

THE SPEAKER: You may refer to it by title.

DR. ANDREWS: With regard to the resolution recommending the transfer of Dr. Arthur S. Rowley of Traverse City to the retired members roster, the Committee has conferred on this and moves its adoption as read.

I so move.

The motion was seconded by Dr. I. W. Greene, Shiawassee County, and carried unanimously.

THE SPEAKER: You have elected Dr. Arthur S. Rowley of Traverse City to the rank of retired membership.

THE SPEAKER: Have you any further report, Dr. Andrews?

DR. ANDREWS: That completes the report.

THE SPEAKER: Reference Committee on Officers' Reports, Dr. Curry, Chairman.

DR. GEORGE CURRY (Genesee County): Your committee met with three members present. Your committee feels that Dr. Luce has made an exhaustive and comprehensive analysis of the problems that control our Society, and it is our desire that every member of the House of Delegates and in our Society appreciate the efforts and time necessary for such a report. We agree with the etiology and the symptomatology and diagnosis and treatment of the private patient, as suggested by our Honorable Speaker of the House, and advise the adoption and endorsement in toto by the House of Delegates and every member of the State Society individually of these recommendations. I move that the House of Delegates endorse everything contained in our Speaker's report.

THE VICE SPEAKER: What is your pleasure, gentlemen?

DR. L. J. GARIPEY (Wayne): I support the motion.

THE VICE SPEAKER: Any discussion? If not, those in favor say "aye," opposed "no." It is carried.

DR. CURRY: Next is the speech of our President, Dr. Smith. We are heartily in accord with every portion of President Richard Smith's address and recommend its adoption.

The motion was seconded by Dr. J. J. Walch, Delta, and carried.

DR. CURRY: The report of Dr. Penberthy, our President-Elect. We also agree with everything contained in Dr. Penberthy's address and heartily recommend, as suggested and advised by Dr. Penberthy, the correlation of the Council as representing the Michigan State Medical Society with various outside agencies, both governmental and otherwise. By outside agencies we would like to suggest, and we mean, the Crippled Children's Commission and various agencies in the field of preventive medicine.

I move the adoption and endorsement of the principles contained in Dr. Penberthy's address.

The motion was seconded by Dr. J. E. Davis, Wayne, and carried.

THE SPEAKER: Reference Committee on the Report of the Council, Dr. C. S. Gorsline, Chairman, Calhoun County.



DR. C. S. GORSLINE: Mr. Speaker and Members of the House: Your Committee has reviewed the summarized report of the Council as presented by its Chairman, Dr. Powers. It is obviously impossible in the short time available to review all of the several items of the Council's activities as published in the JOURNAL from time to time. We have, therefore, confined ourselves to a review of the summarized report. It appears to your Committee that this matter is of sufficient importance to warrant the appointment of a standing committee whose duty it shall be to review the transactions of each meeting as recorded in the JOURNAL from time to time, in order that they may bring to the House of Delegates a report commensurate with the importance of the continuing activities of the Council during the entire year. It is recommended that a solution to effect this committee's appointment be introduced at this session of the House.

Mr. Speaker, it may be out of order, but as I understand the matters coming up on these reports, it is impossible to get a resolution in before that time. We recommend a resolution to effect a standing committee rather than a special committee that only has an hour or two to review a whole year's work, which is the important part, which you have delegated to a Council to act for you about 363 days of the year.

THE SPEAKER: Mr. Chairman of the Committee, I think the delegates would like to have you go over that matter again to explain exactly what you mean. It is rather an important matter, and I wish you would give close attention, because at the conclusion of this, if the Chairman will move acceptance and adoption, then it becomes an action of the House.

DR. GORSLINE: To repeat, it appears to your committee that this matter is of sufficient importance to warrant the appointment of a standing committee whose duty it shall be to review the transactions of each meeting as recorded in the JOURNAL from time to time, in order that they may bring to the House of Delegates a report commensurate with the importance of the continuing activities of the Council during the entire year.

That is the gist of our reason for it. I move the adoption of this portion of our report.

The motion was seconded by Dr. R. V. Walker, Wayne County.

DR. GORSLINE: Acceptance and adoption.

DR. W. C. ELLET (Barrien): Isn't that a rather complicated affair if we get a committee to investigate everybody? After a bit we will have so many committees that it will be kind of unwieldy. The Council is supposed to publish its proceedings so that everybody may know what it is all about, and when we have our regular meetings if they do things that we don't like we can tell them about it.

DR. GORSLINE: Mr. Speaker, there are no more committees contemplated. It is merely to make a temporary committee a standing committee, that their work may be better digested.

THE SPEAKER: Any further discussion? Those in favor of the motion say "aye," opposed "no." The Chair is in doubt. A standing vote is called for. Those in favor will stand; those opposed. What is the count, Mr. Secretary?

THE SECRETARY: Forty in favor, 15 against.

THE SPEAKER: The motion is carried by a vote of 40 for and 15 against. The Committee may proceed.

DR. GORSLINE: The Chairman's report is divided under several headings. As to membership, finances, and post-graduate education, we commend the work of the Council. The report as made concerning the JOURNAL is altogether favorable. However, your Committee has listened with considerable interest to certain proposed revisions of the By-laws rela-

tive to the employment of an Executive Secretary, and the powers and authority to be delegated to him, and we wish to go on record as opposed to any change which will in any way curtail, hamper or subsidize the work of Dr. Dempster as regards our JOURNAL.

I move the acceptance and adoption of this portion of the report.

The motion was seconded.

DR. L. J. GARIEPY (Wayne): Mr. Speaker, I wish that Dr. Gorsline would be requested to elucidate a little on this. Just what is there in this proposal that is going to hamper Dr. Dempster?

DR. GORSLINE: Mr. Speaker, I was afraid that would come up. In the multitudinous resolutions and amendments to the Constitution and By-laws that were before the House last night I thought I saw a suggestion that inadvertently, probably, would cramp Dr. Dempster's most magnificent work on our JOURNAL. I do not wish to see that, and the Committee thought it well to put this in, in order that when you come to consider your amendments looking toward the employment and vesting with powers of an executive secretary, you would not relegate Dr. Dempster to a secondary place in his official office as Editor of the JOURNAL. That is the only thing we had in mind. We don't know what is coming out of this amendment to the Constitution and By-laws, and it was merely to bring it to your attention now so that when you come to consider those amendments you will have it in mind.

DR. L. G. CHRISTIAN (Ingham): It appears to me that we are attempting to tie the hands of the officers who serve in the interim when the House of Delegates is not in session, in other words, the Council. I don't think there is anyone here who does not appreciate the work of Dr. Dempster, but if you are going to say that the Council or anybody else can do something to Dr. Dempster, then we can pass another one—in other words they will just have to work along. I don't believe in tying their hands; I think it is wrong. I thoroughly appreciate the work of Dr. Dempster, but I do not believe that this policy should not allow the Council to carry out its prerogatives.

DR. GORSLINE: Mr. Speaker, I have accomplished my purpose and I don't care a hoot whether you adopt it or not. I called it to your attention, it will be on your minds when your amendments come up, and I don't care whether you adopt it or not.

THE SPEAKER: Is there any further discussion?

DR. WILLIAM BARSTOW (Gratiot-Isabella-Clare): As I understood this resolution (I may be wrong) when it was read originally the idea was to have an executive secretary in Lansing, with an office there, a full-time man who would keep his finger on legislation and keep everybody posted, but under the direction of the Council, not to usurp the powers of the Council or Dr. Dempster, but that he would simply take the place of a paid lobbyist and would keep his finger on the pulse of the legislature and keep the various county societies informed of what was going on and organize them for action. That sort of man in that position I would heartily approve of; I think that is one of the things that the Michigan State Medical Society has needed very badly for a good many years, and I am very much in favor of that kind of an executive secretary being elected. I think the Society needs him.

THE SPEAKER: Is there any further discussion? The question was called for.

THE SPEAKER: Those in favor say "aye," those opposed say "no." The motion is lost.

DR. GORSLINE: Mr. Speaker, the next item touched on in the report is medico-legal defense. The report of the Council stresses good county organization as one of the two main factors opposed to mal-

practice suits. Your Committee suggests that the Council investigate the possibilities for good that would result if every county organization retained at its own expense a legal adviser.

THE SPEAKER: The Speaker would interpret that that is merely a suggestion and in the adoption of it you are not doing anything.

DR. GORSLINE: I have accomplished, again, my purpose in bringing it before the attention of the House of Delegates. I move the adoption of this portion of the report.

The motion was seconded by Dr. L. J. Garipey, Wayne.

DR. C. F. WHITESHIELD (Ontonagon): I would like to ask Dr. Gorsline what a medical society would do, where there are just five or six members in the county, about hiring a lawyer.

DR. GORSLINE: I think every local situation must be worked out on its own merits. In explanation of that, I will say that our attorney not only acts for us and gives us advice in the matter of malpractice suits, but in any matter where a legal question may be involved; on his retainer fee he is very glad to give us guidance so that we may avoid pitfalls in drawing up contracts, if any such are contemplated, and matters of that kind. I think with only five members they are so closely knit that if any one of them was to turn tail the others could probably handle him, but in the larger societies I believe this is a safeguard.

THE SPEAKER: Any further discussion? If not, those in favor say "aye," those opposed say "no." The Chair is again in doubt. Those in favor say "aye," those opposed "no." It is carried.

DR. GORSLINE: As to economics and legislation, we feel that these subjects are receiving sufficient attention before this House without emphasizing their importance in this report.

I move the adoption of this portion of the report.

The motion was seconded by Dr. L. G. Christian, Ingham, and carried.

DR. GORSLINE: The final item in the Council's report has to deal with the doubtful advisability of requesting federal funds for supplemental medical care to employees on work relief, as being a gesture toward further federal control and socialization of medical practice. We believe that this question is so controversial and so important as to deserve a free and full discussion by this House of Delegates, and it is offered here without comment.

I might read that part of the Council's report so you will understand what I am getting at.

"Representatives of the Council have from time to time met with the State Emergency Relief Commission with the result that many confusing and irritating problems were ironed out. Close contact has been kept with SERA throughout the year and our relations have been most satisfactory.

"As the employables are taken from the relief roll, new problems of great concern present themselves. Without reserves it is manifestly impossible for a family whose wage earner gets but fifty dollars a month to care for the emergency of sickness, and most of that burden will most certainly be placed upon the physicians. There does not seem to be a disposition in the federal government to provide for this emergency.

"We have recently received from the A.M.A. this telegram, signed by Olin West. It reads: 'Information from Washington that it is intention of Administration to discontinue all federal direct relief, including medical relief, on November 1, and that it is assumed by administration that state relief agencies will continue some medical relief financed from state funds. Hope to secure additional information for transmission to state secretaries within day or two.'

"It has been proposed that representations be made urging the government to take over the medical care of these people, and your officers have sent a telegram to President Roosevelt to this effect. The low wage proposed would seem to justify this action. There are those, however, who might well raise the question" (and this is what I am stopping on) "as to whether, in asking aid of the federal government for this selected group of gainfully employed, we may not be quite officially proposing what in the past we have been

pleased to call state medicine. Your Council feels that this is a matter to be fully considered by this House of Delegates."

The recommendation of your committee is that we feel this question is so controversial and so important as to deserve a free and full discussion by this House of Delegates, and it is offered here without comment.

Mr. Speaker, I move the adoption of this portion of the committee's report.

The motion was seconded by Dr. Gordon H. Yeo, Mecosta.

THE SPEAKER: It is moved and supported that this portion of the report be adopted.

I would like to ask the Chairman of that committee if it is the intention of that committee that the discussion of that particular part be brought out in the adoption of your recommendation at this time.

DR. GORSLINE: I don't know where the proper time and place is. The final sentence of Dr. Powers' report reads: "Your Council feels that this is a matter to be fully considered by this House of Delegates," and I believe it well within the province of the delegates to decide when they shall take it up. If it is now, well and good.

THE SPEAKER: The Chair would interpret that in this way. The manner in which he moves the adoption of that portion of the report precludes that discussion because the committee makes no recommendations.

DR. GORSLINE: Our inferred recommendation is that the House give it plenty.

THE SPEAKER: If the Chairman of the committee will withdraw that motion and make a motion either approving or disapproving, whichever he wants, then it can be put up for discussion. If you will recommend either the approval or the disapproval of that section of the report, to-wit, that you favor the use of federal funds for this purpose, you can approach that discussion.

DR. L. J. HIRSCHMAN (Wayne): I move you, sir, that this report be adopted with the exception of the final paragraph, the discussion on this paragraph to be deferred until other reference committees have reported, as there are other reports related to the same subject and we can then discuss them all at once.

The motion was seconded by Dr. J. M. Robb, Wayne, put to a vote, and carried.

DR. GORSLINE: Is Dr. Hoffs in the House? He was the only member not present when we signed this report this morning, and if he is here and wishes to dissent I should like to hear from him now. If there is no dissent, the report is signed by the Reference Committee on the Report of the Council: Dr. Wade, Dr. Myers, Dr. Yeo, Dr. Gorsline.

Mr. Speaker, I move the adoption of this report as a whole, with the exception of the last paragraph.

THE SPEAKER: Which has already been done. Your Committee is discharged with honors.

The Reference Committee on Reports of Special Committees, Dr. Phil Riley, Chairman.

DR. PHILIP RILEY (Jackson): On the question of this bill on barbituric acids which the State Medical Society sponsored last year, which was introduced by the Commissioner of Health, the Committee feels that this bill should be reintroduced again this year, but instead of having the Commissioner of Health do it, we feel that the Legislative Committee of the State Society should do it. I move you that this bill be reintroduced next year through the Legislative Committee.

The motion was seconded by Dr. F. T. Andrews, Kalamazoo, put to a vote, and carried.



DR. RILEY: On the matter of the osteopaths at Alpena, brought up by Dr. O'Donnell, we have no direct resolution or motion to make in this regard.

DR. L. J. GARIEPY (Wayne): Gentlemen, this a very serious problem. I don't think it is the problem of that county alone—it is a statewide problem. This practice is being carried on in Detroit and in other counties. There is a law, as I understand it, which entitles the State Board of Registration to revoke the license of any practitioner in Michigan who will consult with or help any osteopath, chiropractor, or what-not, in his practice. If there is such a law as that we ought to see that it is endorsed.

THE SPEAKER: Is any member of the State Registration Board here?

DR. C. R. KEYPORT (Otsego-Montmorency-Crawford-Oscoda-Roscommon-Ogemaw): There is no law to that effect whereby the State Board of Registration in Medicine can revoke the license of a man who consults with a chiropractor or osteopath or any other cultist.

DR. L. J. GARIEPY (Wayne): I think the House of Delegates should take some action and make some regulation to disbar or disqualify the man from the state or county society who does that, and put some teeth in it, because they are gradually being drawn into our midst. I think at this time we should consider putting some teeth into a law for our own organization to disqualify these men who do that.

DR. W. C. ELLET (Berrien): Would it help the situation in Alpena and some of the other counties that have a similar problem if this House of Delegates or the State Society should write a letter of censure to these hospitals that are doing it? Would it carry any influence and would it check them any? That is just a question for discussion.

DR. F. J. O'DONNELL (Alpena): Knowing the local situation as I do, I think if the Council of the Michigan State Medical Society and the Michigan State Board of Registration in Medicine would bring such a letter to the board of trustees of the Donald McCrae Hospital at Alpena, it would help the situation.

DR. C. S. GORSLINE (Calhoun): There is another angle from which to approach this thing—I think it is equally weak. That is to get the matter before the Secretary of the American Hospital Association. While the American Hospital Association has no disciplinary powers other than those of recognition over the local hospitals, they are sometimes able to back up the profession in bringing pressure to bear. The fact remains, however, its board of trustees and its superintendent are laws unto themselves unless you can bring this outside pressure to bear. Dr. Caldwell is the Secretary of the American Hospital Association (I have had considerable correspondence with him) and you might get some assistance from him.

THE SPEAKER: This discussion, gentlemen, is valuable because each county society has its problem, and our purpose is to help the individual counties.

DR. L. J. HIRSCHMAN (Wayne): It seems to me before we are able to discuss this question intelligently, the Society should officially secure from the Attorney General a ruling as to what constitutes the practice of medicine, what constitutes the practice of osteopathy, what constitutes the practice of chiropractic in the State of Michigan. He has given such rulings to individuals in various parts of the state, but we as the State Medical Society should have that officially and then we will know how to act.

DR. L. J. GARIEPY (Wayne): I move that the House of Delegates authorize the expulsion from

the state and county society of any member who consults with or operates for an osteopath or chiropractor.

QUESTION: Would that include x-ray?

DR. GARIEPY: No. The point I am getting at is that the Secretary of your State Society or the county society can't do anything, you have to put some teeth in this, so I move that the House of Delegates authorize the expulsion from our state and county society of any member who consults with or operates for osteopaths or chiropractors.

The motion was seconded by Dr. Oscar D. Stryker, Newaygo.

THE SPEAKER: As a matter of information the Chair will ask the Secretary to read that portion of the Constitution or By-laws which refers to the expulsion of a member by the Council.

THE SECRETARY: "Each county society shall be the judge of the qualifications of its own members, but as such societies are the only portals to this society and to the American Medical Association, every reputable and legal practitioner of medicine shall be eligible to membership. He shall continue as a member provided he complies with the provisions of the Constitution and By-laws of his county society and of this society. In the event that his conduct, actions or professional labors reflect violation of said provisions, and in the event of failure on the part of his county society to exercise disciplinary action upon him, the council, after due notice and hearing, may cause his expulsion."

DR. R. L. WADE (Branch): I think there is one thing that we are losing sight of here, and that is the patients. Suppose an osteopath brings to an institution a patient in a critical condition, who needs the attention of a surgeon or a good medical man. What are you going to do? Are you going to say, no, you can't take care of that patient? That patient has some rights, too. I believe this is entirely too rigid and that we could make arrangements to take care of this situation without jeopardizing the life of some patient.

DR. R. C. JAMIESON (Wayne): I would like to suggest that Dr. Gariepy incorporate in his motion one word, that is the "habitual" practice for or with an osteopath.

DR. GARIEPY: I accept that correction.

DR. WILLIAM BARSTOW (Gratiot): I would like to bring up the same point this other doctor did. It seems to me that the motion does not quite fill the bill. I believe it is not right for us to refuse to operate patients simply because they have had a chiropractor, but that the point should be clarified and we should be permitted to operate these patients provided the osteopath turns them over.

THE SPEAKER: Dr. Gariepy will kindly state his motion as he now wishes it.

DR. L. J. HIRSCHMAN (Wayne): This resolution as it is intended is all right, but I believe it should be worded very, very carefully, and I am not sure that it is worded quite right at the present time. For instance, Dr. Gariepy lays great stress on the consulting with and operating for osteopaths. Does that mean, for instance, that an x-ray specialist who is a consultant, does it mean a laboratory man who is practicing medicine, may be allowed to work for or with an osteopath, or is it limited to certain specialties in medicine who are to be disciplined, while other specialties are not? If you are going to discipline the profession you must discipline all of it, and that motion should be very explicit.

I am inclined to think that we had better go a little slow in passing a resolution until we have it properly worded and know just exactly what we are doing.

While I am on my feet I want again to reiterate

the fact that we want to be sure of our legal ground in so far as the definition of the practice of the various cults is concerned, and also we want to be sure that we know just exactly what the legal rights of the patient are when he seeks admission to a hospital. Now there are hospitals and hospitals; there are state and county and municipal hospitals, and there are private hospitals, and they are governed differently. I want the society to be awfully sure and do the right thing, and I don't know but that we had better refer this to a committee. I hate like the dickens to refer things to committees, and all that sort of thing, but I believe this is a very, very important matter and we may have to take legal advice in formulating a resolution which will be water-tight.

I am not going to make any motion. I just want to leave that thought with you so it can be taken care of.

DR. W. C. ELLET (Berrien): A point of order. Can a resolution be introduced at this time?

THE SPEAKER: This is not a resolution. This is a motion.

DR. ELLET: It seems to me it has all the earmarks of a resolution. It is asking this society to resolve to do something.

THE SPEAKER: The Chair rules that it is a motion.

DR. RALPH H. PINO (Wayne): It seems as though it might be good judgment on the part of Dr. Garipey to withdraw his motion and make a motion to have a committee appointed to study the problem for a year's time in order that this may be done. After all, the time was when the homeopaths and the allopaths fought this same way. A committee could handle it. It hasn't got to be done today.

DR. F. J. O'DONNELL (Alpena): In order to expedite the matter, I should like to know to whom we could write or refer when we get into difficulties in the procedure. I think I have enough suggestions to start the procedure locally.

DR. L. J. GARIEPY (Wayne): Mr. Speaker and gentlemen, you all remember a few years ago in Jackson when our beloved and deceased member Dr. Kiefer was asked while he was talking on the floor, "How about osteopaths? What are we going to do about that? They have a hospital in Detroit, they are operating, they are doing obstetrical work." He said, "I don't know what we can do about that. We will just have to let it go." This is not a new subject. This is an irritating subject that has been with us right along. I don't think we ought to put it off. The House of Delegates meets only once a year. A year from now the men who are getting their work through the osteopaths are going to be entrenched and not care what we do. It is time for us to do something if we are going to do anything at all, otherwise forget organized medicine.

I will not withdraw the motion until you consider it and put it to a vote. The motion is: that the House of Delegates authorize the Council of the State Society to expel from the State Society any member who habitually consults with or operates for osteopaths or chiropractors or cultists.

The motion was seconded by Dr. F. J. O'Donnell, Alpena.

DR. DEAN W. HART (Clinton): I would like to know who is going to decide what is habitual. It seems to me that in a situation like that you can't put in a word as loose as "habitual" because there is no way of telling what habitual is.

DR. ALFRED LABINE (Houghton-Keweenaw-Baraga): I think that this motion is a very dangerous one, and it will involve us in trouble. Every county medical society has troubles of its own and deals with them in its own locality. If the members of this society feel that associating, we might say,

with members of other cults is unethical, we have in our By-laws the right to consider that as unethical and to expel them from the medical society. I think that method can be taken right along without any necessity of voting on this motion.

DR. I. M. GREENE (Shiawassee): I think Dr. LaBine has rather hit the crux of the situation. After all, we are supposed to be a democratic organization and our county society is the first unit and should handle this situation. If they are unable to do so it can be brought before the Council. It seems to me that this motion at least in intent is changing that section of the By-laws with regard to the expulsion of members, and I question whether we can make such a change as that in order to handle it through a reference committee.

THE SPEAKER: Is there any further discussion? If not, those in favor say "aye," contrary "no." The motion is lost.

DR. T. K. GRUBER (Wayne): Dr. Hirschman made a very good suggestion that I think might well be carried out; that is to contact the Attorney General or an attorney and find out what the medical practice laws of Michigan actually are. I doubt very much if any person in this room actually knows what the rights and privileges of chiropractors, osteopaths, homeopaths, and all the other "paths" might happen to be. I therefore move you that the Council be instructed to find out and have a brochure printed telling the various members what the laws of Michigan are in regard to the practice of medicine.

The motion was seconded by Dr. L. J. Garipey, Wayne, and carried.

THE SPEAKER: Chairman of the Reference Committee on Resolutions. Dr. Insley, Chairman.

DR. STANLEY W. INSLEY (Wayne): There were a number of resolutions. The first one which we will bring up was proposed by Dr. Ellet and asks the House of Delegates to adopt a vigorous continuing and protective program, and to follow that up asking for the appointment of an executive secretary to coordinate the various activities mentioned, and next to that the Legislative Committee of the Michigan State Medical Society should give due consideration to the basic science laws, the practice of medicine by corporations, insurance companies and hospitals, integration of medicine, and lastly, that the Legislative Committee of the Michigan State Medical Society be directed to give due consideration and study to the following matters and report to the next annual meeting of the House of Delegates.

The wording of the entire resolution as presented by Dr. Ellet was not appreciably changed except by the addition in the last part that the Legislative Committee be directed to give consideration and study, and then to report to the next annual meeting of the House of Delegates.

We recommend the acceptance and adoption of the resolution as follows:

WHEREAS, The time-tried principles underlying the practice of medicine are being attacked by powerful influences, and

WHEREAS, The medical profession is being forced to defend and fight for its tenets, in order to preserve good medical care for all the people, therefore be it

RESOLVED, That the House of Delegates of the Michigan State Medical Society instruct the Legislative Committee to adopt a vigorous and continuing protective program organized as follows:

1. A definite program of action shall be established; all legislative bills and other proposals shall be prepared during the non-legislative year and approved by the Council.

2. The program shall be integrated throughout all county and district medical societies, which shall be stimulated to develop active legislative committees, working on the uniform policy adopted by the state society.

3. The chairman of the Legislative Committee of the state society shall keep the chairmen of the legislative committees in all county and district medical societies informed of any legislation relating to medicine that is contemplated or



in process of passage; the local chairman should in turn pass word along to the members of the committee. Each member of the Michigan Senate and House Representatives in the particular county or district shall be favored by at least one physician, preferably the family physician. The key man shall contact the legislator frequently, become his friend, and give advice on legislation relating to medical practice.

In advance of the biennial election, all candidates for offices which touch the practice of medicine shall be contacted and records of all such contacts and the viewpoint of each legislator shall be kept on file in the executive offices of the state society, and be it further

**RESOLVED**, That an executive secretary be appointed immediately to coordinate all these activities and institute new programs deemed requisite by the state society. When necessary, he should be assisted by a legislative observer appointed by and under the guidance of the Legislative Committee. The appointment shall be ratified by the Council of the state society. The work of this aide shall be arranged by the executive secretary, upon instructions of the Legislative Committee.

**RESOLVED**, That the Legislative Committee of the Michigan State Medical Society be directed to give due consideration and study to the following matters and report to the next meeting of the House of Delegates:

- (a) Basic science laws.
- (b) Practice of medicine by corporations, insurance companies, and hospitals.
- (c) Integration of medicine.

I move the adoption.

**THE SPEAKER**: At this point the Chair would like to interrupt and say that he has received a communication to the effect that your attention should be called to the fact that perhaps you might wish to discuss the report of the Committee on Resolution in executive meeting.

**DR. A. G. SHEETS (Eaton)**: Inasmuch as the report of the Legislative Committee touches upon these matters, it would seem as though this report is just a little untimely, that the report on the Legislative Committee's report should be given first and that would obviate the necessity of going over the same ground two or three times. These resolutions seem to have been introduced in harmony and in keeping with this report, and so the report should be read first. I simply recommend or suggest to you that you have this report read first, after which this matter can be presented.

**THE SPEAKER**: If I hear no objection, the Chair will rule that it is the wish of the House that the Reference Committee on Resolutions report after the Reference Committee on Standing Committee Reports. It is so ruled. That is for your entire report.

The next order of business is the report of the Reference Committee on the Economic Committee's Report.

**DR. F. T. ANDREWS (Kalamazoo)**: I move we go into executive session.

The motion was seconded by Dr. J. D. Brook, Kent, and carried.

### Executive Session

**THE SPEAKER**: I will now declare this House constituted in executive session. The individuals appointed yesterday will again serve in the same capacity, including the Sergeant-at-Arms.

**DR. I. W. GREENE (Shiawassee)**: Is it your ruling that conditions in this executive session be the same as yesterday and that other members in good standing in the state society be allowed to remain?

**THE SPEAKER**: Unless the Chair hears some objection the ruling that prevailed yesterday will prevail today. That included members of the Michigan State Medical Society in good standing, and the executive secretary of the Wayne County Medical Society.

**DR. J. M. ROBB (Wayne)**: Does that exclude Mr. Smith?

**THE SPEAKER**: I know Mr. Smith very well personally and he told me that if he was told not to release anything until he was told to do it he wouldn't do it, but he felt that the House would

appreciate it if he went out and there would be a little better feeling about discussing matters.

**THE SECRETARY**: The House has been polled and all here are accredited and entitled to attend this meeting.

### REPORTS OF REFERENCE COMMITTEE

**THE SPEAKER**: The Chairman of the Reference Committee on Standing Committee Reports, Dr. Foster.

**DR. L. F. FOSTER (Bay-Arenac-Iosco)**: Mr. Speaker and Members of the House of Delegates: In order to expedite the work of this committee we were able, due to the size of it, to break it down into a number of subcommittees and thereby succeeded in covering the ground that was allotted to us to cover. These subcommittees have surveyed carefully and analyzed these reports, and then they have been concurred in, in their reports, by the committee as a whole. At this time, with your permission, I shall call upon various members of this committee to present the reports of the several subcommittees.

First is the report of the Cancer Committee, which will be presented by Dr. Gruber.

**DR. T. K. GRUBER (Wayne)**: You will find the report of the Cancer Committee in the handbook. (See page 568, September, 1935, JOURNAL.)

Following is our report:

To the House of Delegates,

Michigan State Medical Society.

The report of the Cancer Committee reveals much conscientious work and unusual progress. The Committee is to be especially commended upon its educational program, both through lectures to numerous high schools and parent-teacher groups and through weekly articles in the press.

We recommend that the report be accepted and adopted in its entirety and that the committee be continued.

Respectfully submitted,

CARL SNAPP, M.D.

T. K. GRUBER, M.D.

September 24, 1935.

**DR. FOSTER**: I move that the report of the subcommittee on the Report of the Cancer Committee be received and the educational provisions be continued and studied and the Committee be given a vote of thanks for their work.

**THE SPEAKER**: When you receive it you adopt it.

The motion was seconded by Dr. John Sundewall, Washtenaw, put to a vote and carried.

**DR. FOSTER**: The report of the subcommittee on the report of the Preventive Medicine Committee, Dr. Callery.

**DR. A. L. CALLERY (St. Clair)**: Mr. Speaker and Members of the House of Delegates: The report of the Preventive Medicine Committee is also printed in full in the official program. We wish to call special attention to that part of the report which recommends intensive residence courses at Herman Kiefer Hospital, Detroit, for which those attending may receive university credits. This fits in with the report of the Committee on Post-graduate Education. We recommend it for your consideration.

The recommendation of the committee for co-operation with the Michigan Tuberculosis Society and the Michigan Department of Health and the set-up of the plan adopted by the Michigan Tuberculosis Society and the Council of the State Medical Association as given in the report should be stressed for your very earnest consideration and co-operation.

The committee again urges the hiring of a full-time medical coordinator to carry out the program of the Preventive Medicine Committee as sug-

gested in the annual report and accepted by the last meeting of the House of Delegates, when, as and if funds are available for such purpose.

DR. FOSTER: At this time I would like to ask for a ruling on the words "receive," "adopt," and "accept." We very specifically wish some of these reports simply to be received, as it were filed. Others contain certain items that we wish adopted and accepted, and in the last case the motion to receive that report was simply to file it.

THE SPEAKER: When you have a report read it is received. When a report is accepted you also adopt it. It is the desire of the chairman that this portion of the report which was just submitted by the Cancer Committee be only acted upon as if it were received, which was done when you read it. The Secretary is shaking his head.

DR. FOSTER: Mr. Speaker, the point that we are trying to get at is that you furnish us with some words which will suit the situation. Some of these reports contain items that we wish accepted or adopted, which makes it incumbent upon somebody to carry out those provisions; in other cases that is not our idea and we only want the report filed.

THE SPEAKER: The Chair will rule and recommend to those who make motions that you use both words and that you say: "I move the acceptance and adoption of this report." There is no way of getting around that. Do I stand corrected?

DR. FOSTER: Yes and no. Some of these reports contain nothing that we want to put into effect, and we assume that when we adopt something we are making it incumbent upon some administrative office or body to do a certain thing. Some of these reports are interesting in the facts they disclose, but they do not contain anything that we want put into definite legislative action or administrative action by your Council or committees or what-not.

THE SPEAKER: Will the chairman define a word that he would like to have used that would have a double meaning like that?

DR. I. W. GREENE (Shiawassee): It seems to me that our august body the Council settled this matter last year. If Dr. Foster merely wants to bring the matter before the House of Delegates, why can't he say, "We move the acceptance of this report"? If he wishes to put something across that is obligatory upon the Council or any other officers to carry out, move that it be accepted and adopted. Leave out the "adopted" on those that he merely wishes to file. It seems to me that was the ruling that was made last year on the report of the Legislative Committee. Why wouldn't that still hold good?

THE SPEAKER: Dr. Foster, on the reports which you do not want adopted, if you make no motion with reference to them they are then a part of the records of the Society without action and the Chair would recommend that you use both words "accept" and "adopt" on the others.

DR. FOSTER: Mr. Speaker, I move you that we accept and adopt the report of the Preventive Medicine Committee and extend to them our commendation for the amount of work and the constructive educational program outlined in that report.

The motion was seconded by Dr. A. G. Sheets, Eaton, put to a vote and carried.

DR. FOSTER: Medico-Legal Committee Report, Dr. Johnson.

DR. O. G. JOHNSON (Tuscola): Your committee went over the work of the Medico-Legal Committee and found it so well done that we felt it needed no comment. However, there was a resolution presented yesterday which is before the House which I think needs the fullest discussion of the members. Your committee is in favor of that resolution, but we felt that it should have an open discussion here and no decision by us.

We also feel that on account of the vast amount

of work being done or of malpractice suits being instituted, we should do nothing to cripple the work of our Medico-Legal Department. Along that line Dr. Gorsline's suggestion was a good one, that each county retain an attorney with whom they might consult.

DR. FOSTER: This report being automatically received, I move that this committee be given a vote of thanks for their year's work.

The motion was seconded by Dr. F. C. Bandy and carried.

DR. FOSTER: Maternal Health Report, Dr. Snapp.

DR. CARL SNAPP (Kent):

To the House of Delegates  
Michigan State Medical Society

The report of the Maternal Health Committee is exceedingly complete in every detail and represents much thought and effort. However, your Reference Committee deems it inadvisable for the House of Delegates of this Society to take any definite stand or action at this time on the matter of birth control, especially since the American Medical Association expects to have a report on the subject submitted to its House of Delegates at the meeting next May. Your Committee recommends that the report be received and that the Committee on Maternal Health continue the study of the subject during the coming year.

Respectfully submitted,

CARL SNAPP, M.D.

September 24, 1935.

DR. FOSTER: I move that this committee be given the usual vote of thanks and that its studies be continued.

The motion was seconded and carried.

DR. FOSTER: Your Reference Committee has read with a great deal of interest the detailed report of our Delegates to the American Medical Association, and I move you, Mr. Speaker, that their report having been received, the Delegates to the American Medical Association be given our hearty vote of thanks for this very clear-cut report of the proceedings of the American Medical Association.

The motion was seconded by Dr. Carl Snapp, Kent, and carried.

DR. FOSTER: The report of the Auxiliary Advisory committee appearing in the program was reviewed by your committee and was concurred in, which I presume automatically makes it received.

Your committee feels the same about the report of the Radio Committee, with the exception that they felt that this committee was due a considerable amount of congratulations on the work they had done, and I move that this committee continue its studies and educational program.

The motion was seconded by Dr. John Wessinger, Washtenaw, and carried.

DR. FOSTER: In so far as I am able to tell, every report has been covered but the Legislative and Economics. If there are any other committee reports that nobody has accounted for we will be very happy to report on them because I think we reported on everything.

I should like a this time to call on Dr. Sheets, who will present the report of the subcommittee on the Report of your Legislative Committee.

DR. A. G. SHEETS (Eaton): Following is the report of the reference committee:

Mr. Speaker and Members of the House of Delegates:

Of the one thousand bills introduced into the 1935 Michigan Legislature, about one hundred twenty concerned the health of the people. The Michigan State Medical Society, through its Legislative Committee, fought selfish interests and misguided groups in their powerful efforts to lower the present high



standards of medical service. An intelligent and understanding Legislature protected the best interests of Michigan's public health by refusing to consider many pernicious proposals.

Of the one hundred twenty bills requiring its attention, the Legislative Committee reported on two major problems: (a) the establishment of a medical fee somewhat commensurate with the service necessary in the examination of the insane; (b) the transfer of the medical expense of afflicted children from the county to the State.

This amendment to the Afflicted Children's law established the principle that afflicted indigent minors are wards of the State which, therefore, is responsible for the provision of their necessities, including medical care. While an appropriation of \$1,400,000 per annum was made by the 1935 Legislature specifically for the care of the afflicted child, the Crippled Children Commission evidently erred by diverting a major portion of this fund for other purposes of the Commission.

Your Reference Committee recommends the approval of the program of eight items as proposed by the Legislative Committee in its report, as follows:

First: That the legislative program of the Michigan State Medical Society should be a continuing program, year in and year out. The legislative bills to be proposed should be drawn up and submitted to the Council for approval during the non-legislative year.

Second: Every county and district medical society should be stimulated to develop satisfactory and active legislative committees whose legislative policies are definitely established and unified throughout the state, namely, contacting legislators and keeping a closer relationship with public officials.

Third: The chairman of the Legislative Committee of the State Society should keep the chairmen of the Legislative Committees of each county and district medical society informed concerning any legislation relating to medicine that is contemplated or in the process of passage. The local chairman should in turn pass work along to members of his committee. Each member of the Senate and House of Representatives in the particular county or district should be covered by at least one physician, preferably the family physician. The key-man should contact the legislator frequently, become his friend, and give advice on legislation relative to medical practice in advance of the bi-annual election. All candidates for offices which touch the practice of medicine should be contacted and given the right viewpoint, and the records of all such contacts and viewpoints of each legislator should be kept on file with the executive secretary of the State Society.

Fourth: An executive secretary should be on the job permanently in Lansing to coordinate all these activities and institute new programs. He should be assisted by a legislative observer appointed by the Legislative Committee and approved by the Council. The work of the legislative observer shall be arranged by the Legislative Committee with the cooperation of the executive secretary of the Michigan State Medical Society.

Fifth: That we propose that the dues of the Michigan State Medical Society be raised \$1.50 a year, to its Constitutional limit, for educational purposes, this percentage of the total dues to be allotted to carry out the program as stated in Number Four.

Sixth: The Legislative Committee of the State Society should consist of seven members instead of five as at present. Five members should be appointed as at the present time for a period of two years, the sixth member should be the president-elect of the State Medical Society and the seventh member should be the Chairman of the Council.

Seventh: We endorse a Michigan Health Council or Allied Health Group which should be formed of representatives of the organizations of physicians, dentists, nurses and pharmacists working coöperatively in health legislation with representatives of the organizations of teachers, lawyers, and social workers. Your Reference Committee recommend that the President of the Michigan State Medical Society be empowered to develop such a Health Council in this State. This Health Council should be an integral organization throughout every county and district.

Eighth: We respectfully recommend that the Legislative Committee of the State Society give due consideration to and prepare a report to the House of Delegates and the Council on the following problems at the next annual meeting:

- (a) the integration of medicine;
- (b) the unauthorized practice of medicine;
- (c) the Basic Science Laws;
- (d) the revision of the Medical Practice Act.

Respectfully submitted by your  
Reference Committee

J. N. ROBB  
ROY HERBERT HOLMES  
A. G. SHEETS

DR. FOSTER: I move the acceptance and adoption of this report and our expression of our sincere appreciation to the Legislative Committee for their untiring efforts during the past year.

DR. C. F. MOLL (Genesee): I second it.

The motion was put to vote and carried.

THE SPEAKER: As a matter of information, the Chair would like to inform the membership that it is his opinion that the Constitution does not fix the dues at ten dollars. The House of Delegates fixes the dues of the Society. Am I correct?

DR. SHEETS: Yes, as you always are right, Mr. Speaker.

DR. FOSTER: The Economics Committee report, Dr. Sladek of Traverse City.

DR. ROY H. HOLMES (Muskegon): Would it be possible to have this Economics Committee report reported and voted on in its separate portions? There are three parts.

THE SPEAKER: It is possible and the chairman, when he has finished one portion, will make his motion.

DR. E. F. SLADEK (Grand Traverse-Leelanau): The reports were very voluminous and we boiled down our recommendations. The first is the Afflicted Child Act.

Your Committee concurs with the subcommittee report, particularly relative to recognition by legislative enactment of the principle of payment to physicians for services rendered to indigents.

We feel and recommend that some arrangement be made for a reasonable fee and if necessary a method of deferred payment be instituted until such time as funds are made available for the deficiency, as is the custom in other departments of government.

Further, that the Council be requested to appoint a committee who are to immediately contact the Michigan Crippled Children's Commission, the Administrative Board, and such other interested agencies, and present our demands for consideration of an adequate fee schedule, and that they be empowered to institute such court proceedings as may be necessary to clarify the intent of the present laws governing the activities of the Michigan Crippled Children's Commission.

Further, that a demand be immediately made upon the Michigan Crippled Children's Commission that payment for the medical and surgical care of the afflicted child be made upon the same basis as for that of the crippled child.

DR. FOSTER: I move the acceptance and adoption of that part of the report.

The motion was seconded by Dr. F. T. Andrews, Kalamazoo.

DR. PHILIP RILEY (Jackson): I would like to know if in that motion there are provisions or if there are going to be provisions as to who shall come under this Afflicted Child Act. I think something should be done at this meeting as to who is to determine who is eligible to come under the Afflicted Child Act.

THE SPEAKER: Dr. Riley, that is a very good point to take up, and I wish it would be taken up later. There is nothing said in this report about it.

DR. SLADEK: We discussed it slightly.

DR. RILEY: You haven't got it in there.

DR. SLADEK: No.

DR. T. K. GRUBER (Wayne): Down in Detroit they have recently organized a so-called Health Council. One of the things that was suggested for study on the part of this Health Council is what constitutes a clinic or an indigent patient. I think that is the thing that the doctor is interested in. After all, I don't believe that the medical profession have ever decided what constitutes an indigent or a clinic patient. I believe that decision has been made, with all due respect to them, by social workers, by sociologists, by politicians, by what have you, and I think the question that the doctor brings up is highly pertinent: Who should come under the provisions of this law? I believe if you will read the law, it simply says people who are not able to pay in whole or in part. After all, we haven't any definition as to what is indigency. I should like in some way or other that the matter be defined. I am hoping maybe our Health Council in Detroit might define the thing before they get through with their job.

THE SPEAKER: Dr. Foster, do you want to answer anything?

DR. FOSTER: Do we understand Dr. Riley to refer to the question of indigency, or are you referring to the differentiation between an afflicted and a crippled person?

DR. RILEY: No. I merely asked the question whether he made the motion on this Afflicted Child Act, as to the determination of who should come under it. If that is not provided I think something should be done about it at this meeting, because it is a rotten situation as it exists today. As Dr. Gruber pointed out, politicians largely determine who is indigent and who is not indigent. That is true in our county; I think it is true in every county. If it is not in Dr. Sladek's motion that he just made or something he is going to make later, I think something should be done on it right at this time to determine that.

DR. FOSTER: In the discussion of that point, it was the sense of this committee that this body was best prepared to express its views on that. We were simply using the vernacular of the term "indigent" as we have a general understanding of it. If there is any specified definition of that word or any limitations to it, we felt that this body could best express its opinion in the discussion of the report.

THE SPEAKER: The Chair would interpret that any definition that you gave in your discussion would have very little weight.

DR. SLADEK, will you read that particular portion which has reference to the point under discussion?

DR. SLADEK: We don't take up that particular point at all.

THE SPEAKER: Where do you refer in there to the words "afflicted child"? This was the Speaker's idea: that if that can be referred to a particular part, following that a motion can be made that such-and-such is your interpretation of the status of the afflicted child.

DR. RILEY: After this report is adopted, then, can

I make a motion regarding the afflicted child, or shall I withhold that motion until later on?

THE SPEAKER: I would rather that you would put in a definition as an amendment, an addition in other words, to this report before you accept or adopt it.

DR. RILEY: If we don't stop it where it is, it will take \$20,000,000 to pay it per year. Therefore, I would like to make a motion to amend this part of the report and state that persons coming under the jurisdiction of the Afflicted Child Act (not the crippled) be limited to persons on welfare relief rolls. We can't decide that question, but we can make a motion to that effect, to petition the Crippled Children's Commission to determine that.

THE SPEAKER: To give them a sort of standard of what we consider the type of case that we should take care of.

DR. RILEY: In other words, tell them what we want. We want it cut down to those welfare cases.

The motion was seconded by Dr. John L. Chester, Wayne.

DR. W. C. ELLET (Berrien): May I ask Dr. Sladek if there isn't a paragraph in there that provides for a committee to be appointed? Why shouldn't that committee decide this question? It is a pretty hard thing for us to get definitions at this time, and before they can do any work at all they will have to decide just what is what. I think it would be a little bit out of order to define that right now.

DR. ROY H. HOLMES (Muskegon): I have been very much interested in the Afflicted Child Act, and have spent quite a bit of time with an attorney friend of mine going over the law. The law specifically states or defines indigency, that is, it includes any child whose parents or guardian cannot pay all or part of the medical service or care. It is not up to the Crippled Children's Commission in any way, shape, or manner; it is purely a legislative dictum.

Dr. Riley also mentioned—I don't know whether he intended to—the difference between a crippled child and an afflicted child. That is also established by legislative action, but it is so indefinite that the Crippled Children's Commission by virtue of their inherent primary desire to care for the crippled child, so-called, rather than the afflicted child. I think probably all of you, if you have had any afflicted children, have run across that: they write back to you and tell you that that child is a crippled child and not an afflicted child. They seem to be very strong about sharply defined lines as to making a child crippled if there is any suggestion of an orthopedic trend in the case. The only way it can be changed as far as indigency is concerned is through the legislature.

DR. C. F. WHITESHIELD (Ontonagon): As all doctors here know, politicians run that business to a certain extent, as has been stated. The probate court sends out the papers and you are ordered to examine this child. Then the supervisor says, "These people are not able to pay." He signs it, and all the resolutions we can pass regarding the matter won't have any effect on the supervisor or the politician.

DR. RILEY: I would like to change the motion. I can see the arguments that are put up against it, especially Dr. Whiteshield's argument, that the supervisor and the probate judge determine whether or not they are indigents. I wonder if this committee that has been appointed to confer with the Crippled Children's Commission couldn't arrive at some definite stand with the Commission and bring it back to a Council meeting and let's decide the thing as soon as possible in that way.

I would like to withdraw the other motion that I made and move to amend the report, that the com-



mittee appointed to confer with the Crippled Children's Commission be instructed to settle the question as to who is indigent and who is not indigent and report back to the Council of the Michigan State Medical Society at their next meeting.

THE SPEAKER: Do you wish to say the Council? The Council doesn't meet until January.

DR. RILEY: The Executive Committee. In other words, we have got to do something about this. I don't believe that saying "Let's appoint a committee to report back next year" will accomplish it, because that is twelve months from now. The men in Jackson are on a strike; they are not going to do a darned bit of it, and that defeats our own purpose if we let that situation go ahead. We have got to come to some conclusion. We have been up here two or three days and we ought to have something done about it. I hate like the devil to go back and tell them nothing is done.

DR. J. D. BROOK (Kent): The time is getting short and it seems to me we are wasting a lot of time here on a subject which doesn't directly concern us. The matter of indigency is provided for in the law, as I understand it, and that matter is determined by the probate court or county agent who goes out and makes the investigation. I think we should confine our activities to that which directly concerns the doctor, not to the matter of indigency. We can't change it anyway.

DR. HENRY R. CARSTENS (Wayne): May we have that portion that refers to the appointment and powers of the committee read?

DR. SLADEK: "Further, that the Council be requested to appoint a committee who are to immediately contact the Michigan Crippled Children's Commission, the Administrative Board, and such other interested agencies, and present our demands for consideration of an adequate fee schedule, and that they be empowered to institute such court proceedings as may be necessary to clarify the intent of the present laws governing the activities of the Michigan Crippled Children's Commission."

DR. CARSTENS: Mr. Speaker and Members of the House: I feel that this is a very important point as to the powers of this committee. In the Council's previous deliberation with Lansing, there seems to have been some difficulty as to just exactly who was the spokesman for the State Medical Society. Conditions change very rapidly. Those here are well aware of all the points that have been discussed. It would be very desirable if the House in some way would empower that committee to act so that Lansing knows they are speaking with authority. It might even be desirable to go so far as to vest this committee with full authority, that is through the Council, because the Council is a large unit which is not very mobile and it is impossible, of course, to have them running up to Lansing every two or three days for these various meetings. I feel we should give this committee considerable authority and delegate to the committee the power to take such steps in conversation as to indicate what the feeling of the profession of the state as a whole is.

DR. L. J. GARIEPY (Wayne): Under the new setup for the Legislative Committee you have the Chairman of the Executive Committee, the President-Elect, the President of the Society ex-officio, and five other members. The Legislative Committee will be perfectly competent to handle such matters as this, to represent your society, and not have a half dozen committees to confuse the legislators.

DR. L. G. CHRISTIAN (Ingham): Again let's go back to the Council. I like that as it is worded, "a committee appointed by the Council," or by the Executive Committee of the Council. The Council is, according to the Constitution, the spokesman. In emergencies they can speak for us. We are giving them power to go down there and negotiate or do

anything they can to try to get it settled. I do not believe that this is a function of any standing committee. We have a Council, and that is the place through which it should go.

DR. JULIUS POWERS (Chairman of the Council): In the report that the Council made to your body we requested definite advice and indirectly asked for authority. Now I would like to know if this resolution would be interpreted that we would have authority as the Executive Committee to go to Lansing, we will say, and make an agreement for the State Society as to fees, et cetera. It seems that we were a little backward and timid about making a fee schedule because there have been so many different ideas with regard to this. The idea of the majority of the Council has been that it is wrong to cut that original fee bill which is known as Schedule A, which was agreed to some years ago by the Council in collaboration with the Crippled Children's Commission.

The Council would like very much some advice as to whether to cut that bill, how far to cut it, and whether this gives them authority to go ahead and make a special fee bill.

DR. SLADEK: The committee is willing to add the words "with power to act," so that it will read: "The Council be requested to appoint a committee with power to act who are to immediately contact the Michigan Crippled Children's Commission," and so forth. We feel that this committee would have the power to act under this recommendation. It doesn't have to be the Executive Committee; it can be any committee that the Council wishes to appoint. We will add "with power to act."

THE SPEAKER: There is a motion before the House but it was not seconded.

DR. RILEY: I withdraw it.

THE SPEAKER: If you wish to make another one you have that privilege.

DR. RILEY: I didn't care to make a motion. I merely asked a question and none of you were able to answer it so I had to make it.

DR. ROY H. HOLMES (Muskegon): At a later time in this report in the discussion of the Reference Committee regarding the SERA in Michigan, we referred to the satisfactory fee—temporary—as half of our average fees for the care of this class of patient. We in Muskegon do not feel that that schedule adopted June 16, 1934, by the Crippled Children's Commission comes up to a fair fee for the handling of this type of case. I therefore wish to amend this report, that fifty per cent of the average fee charged the private patient for the type of service in this kind of patient should be classified as an adequate fee until further change is made by the House of Delegates or the Council. I say half the fee—I mean half the fee we charge a private patient.

DR. FOSTER: That was the intent of the committee, that when we put in there specifically that this committee establish an adequate fee, the discussion was based on the idea that we had more or less discussion in this House of Delegates previously and hit upon the fact that fifty per cent of the current regular private practice fee was considered adequate and was our definition of an adequate fee.

DR. L. J. HIRSCHMAN (Wayne): In discussion in the committee on this subject we felt that a committee of three with power to act appointed by the Council would be so constituted by the Council that it would consist of men who had the interest of the profession well at heart and no particular group of the profession, and we felt we could safely leave that whole discussion, over which we have no control whatsoever—we can talk about what fees we would like to get, but we are up against a law and an interpretation of the law—to them. We felt we could go so far and in our report ask that this com-

mittee be empowered to use legal means, start suit, if necessary, mandamus, anything, to get a very definite ruling on this whole subject. In other words, this committee will have a tremendous lot of power.

Now, I, for one, feel perfectly safe in being represented by this committee in their dealings with the Michigan Crippled Children's Commission and other agencies. I believe we can leave it to them without trying to instruct them from the House at the present time, without having given this due deliberation. I believe we should leave it to this committee and they will do the fair thing by the profession.

DR. A. G. SHEETS (Eaton): I wish to support the amendment of Dr. Holmes defining an adequate fee.

THE SPEAKER: You are now discussing the amendment.

The question was called for.

THE SPEAKER: On the question of the amendment, those in favor say "aye," those opposed "no." The Chair is in doubt. Those in favor stand. In order that you may all know what you are doing I will ask Dr. Holmes to restate the motion.

Dr. Holmes asked that the motion be read, and the reporter read the amendment offered by Dr. Holmes.

DR. HOLMES: May I elaborate just a moment?

THE SPEAKER: You may because the negative vote has not been taken.

DR. HOLMES: The reason I am doing this, we are establishing in a later report under the SERA that fifty per cent of our average fee to a private patient is considered an adequate fee temporarily under the SERA, and I can't see any reason for having any distinction between an adequate fee for an afflicted child or an afflicted adult. If one is fair then the other is fair.

THE SPEAKER: The Chair then calls for a standing affirmative vote on this amendment. Those in favor stand again while the Secretary counts. Those opposed to the amendment rise and remain standing.

THE SECRETARY: Thirty-six for, 20 against.

THE SPEAKER: The amendment is carried by a vote of 36 to 20. You are now voting on the main motion. Is there any discussion on the main motion to adopt this portion of the report? Those in favor of the adoption of this report make it manifest by saying "aye," opposed "no." It is carried unanimously.

DR. SLADEK: The FERA report. First of all I will read the conclusions and recommendations of the Committee report.

Dr. Sladek reread pages 6 and 7, Conclusions and recommendations of the Report of the Subcommittee on the FERA Survey of Relief Medicine (See page 715 of these proceedings).

DR. SLADEK: Your committee concurs with the recommendations of the subcommittee report and feels with them that the administration of medical welfare relief should be in the hands of a special relief organization such as a state welfare department.

Medical relief should be administered by a qualified medical director and in such a manner as to not in any way infringe upon the personal physician-patient relationship.

Relative to the ascertainment of fees for special services, we feel that this can be done by questionnaire correspondence between the State Secretary and the county secretaries, thus eliminating a possible large expense to the State Society.

DR. FOSTER: I move the acceptance and adoption of that part of the report.

The motion was seconded by Dr. John Wessinger, Washtenaw.

THE SPEAKER: The action now is upon the ac-

ceptance and adoption of this portion of the report. Is there any discussion?

DR. WILLIAM BARSTOW (Gratiot): It seems to me there are contradictory paragraphs in this report. In the first place it says medical relief should be administered on the same business-like basis and in the same way as other necessities. Then down below it says we take fifty per cent as a flat basis for a cut. I would suggest that the basis for a cut on medical necessities be the same percentage of the usual fee as the cut made in other necessities that are furnished, the groceries and everything else. When the grocer and the others come down fifty per cent in their price, we will do the same.

DR. STANLEY W. INSLEY: As a matter of fact, the other necessities, we will say a large amount of milk or large amounts of coal and the like, when bought in large quantities by state organizations, state welfare organizations, are not bought at the high open market price; they usually are allowed certain concessions, the concession being given by the distributors because of the lower overhead cost from dealing in bulk volume, and the other arguments that might be put up. Rather than to reduce sixty per cent or thirty per cent, it was felt that our position would be stronger by sticking to what we could prove by actual statistics. The actual statistics show, of course, that the overhead costs of doing business are approximately between forty and fifty per cent. We either had to choose a percentage basis for our suggested set-up or make statewide set fee schedules, and I don't think any of the gentlemen present would care to have such a set-up as that.

The only other alternative we had was to ask for full fees, if you wish to put it that way, or no fees at all. We had to have something, and rather than put up an inflexible fee schedule for all special services, we had to adopt a percentage or discount basis of doing business.

THE SPEAKER: Is there any further discussion? Those in favor of that portion of the report and its acceptance and adoption say "aye," opposed "no." It is carried.

DR. SLADEK: The next part of this report is a little behind time because the program is already in operation. That is the Post Graduate Medical Education.

Your committee wishes to commend the subcommittee on Post Graduate Medical Education for the general practitioner for their painstaking and diligent work as revealed by their report, and views with pride the advanced position Michigan will take in the medical educational field at such time as the reported plan is in full operation. In view of the great importance of this subject, we would suggest that a committee such as the present Advisory Committee on Post Graduate Medical Education be appointed by the Council and be made a permanent standing committee empowered to make such rules and regulations as are required for the granting of certificates of attendance and of such degrees of proficiency as are decided upon.

DR. FOSTER: I move you the acceptance and adoption of this part of the report, to carry with it the sincere appreciation and thanks of this body to the Economics Committee for their untiring efforts and for their contribution of this fine report that they have submitted.

DR. ALFRED LABINE (Houghton-Keweenaw-Baraga): I second that motion.

DR. BASIL L. CONNELLY (Wayne): I have one suggestion (I think I can put it in the form of an amendment), that the time that is spent at the scientific meetings of the Michigan State Medical Society be considered as time on the fellowship certificate.

THE SPEAKER: You have heard the amendment. Is there a second? Hearing no second, is there any



further discussion on the main motion? Those in favor say "aye," opposed "no." It is carried.

DR. C. S. GORSLINE (Calhoun): In view of the large amount of work still before this House, I move that we recess until 2:15, approximately an hour and a half.

The motion was seconded by Dr. Ralph S. Jiroch, Saginaw.

THE SPEAKER: The motion is to recess this particular part of the session until 2:15 p. m., and we will reconvene in executive session. Those in favor say "aye," opposed "no." Those in favor of recessing until 2:15 stand. Those opposed. The "ayes" have it.

The motion was carried, 35 to 10, and the meeting recessed at 12:40, to reconvene at 2:15 p. m.

## Tuesday Afternoon Session

September 24, 1935

The House reconvened at 2:20 p. m., the Speaker, Dr. Henry A. Luce, presiding.

THE SPEAKER: The House will be in order. This is a continuation of the executive session. The next Reference Committee report is that of the Committee on Resolutions, Dr. Insley, Chairman.

Dr. Gorsline, the part of your report which we did not take action on was the part involved in the Council's recommendation on the employables?

DR. C. S. GORSLINE (Calhoun): "The final item in the Council's report has to deal with the advisability of requesting federal funds for supplemental medical care to employees on work relief, as being a gesture toward further federal control and socialization of medical practice. We believe that this question is so controversial and so important as to deserve a free and full discussion by this House of Delegates, and it is offered here without comment."

THE SPEAKER: That was left over for discussion. We will next have Dr. Insley's report.

DR. STANLEY W. INSLEY: Mr. Speaker and Members of the House of Delegates: The resolution concerning the activities of the Legislative Committee was read this morning. I see no particular reason for reading this resolution over again, and inasmuch as it confirms and fortifies the position of the previous reports your committee will simplify matters by simply moving for the acceptance and adoption of the resolution. I move, Mr. Chairman, that this be adopted.

The motion was seconded and carried. (See page 726 for the resolution.)

DR. INSLEY: The next concerns a matter of setting up a Section of Radiology.

DR. INSLEY reread the resolution. (See page 719.)

DR. INSLEY: Your committee suggests the formation of such a section and I move the adoption of that suggestion.

The motion was seconded by Dr. C. S. Gorsline and carried.

DR. INSLEY: The next concerns the appointment of a committee to investigate the activities of the Crippled Children's Commission.

DR. INSLEY reread the resolution. (See page 719.)

DR. INSLEY: Your committee recommends that this resolution be referred to the Council for appropriate action, and I move the adoption of this suggestion.

The motion was seconded by Dr. Roy Holmes, Muskegon, and carried.

DR. INSLEY: Next refers to including Benzie County in the Grand Traverse-Leelanau Society.

DR. INSLEY reread the resolution. (See page 719.)

DR. INSLEY: Your committee recommends the adoption of this report as read, and I so move you.

The motion was seconded and carried.

DR. INSLEY: For the appointment of a committee to rate the type and scope of each class of medical examination, with reference to insurance examinations.

DR. INSLEY reread the resolution. (See page 719.)

DR. INSLEY: Your committee felt that such a matter very properly belonged to the general category of medical economics, and they, therefore, suggested the following change in the resolution:

BE IT RESOLVED, that this committee considers this matter an economic problem and therefore this resolution should be referred to the Economics Committee for appropriate action and report to the Council and House of Delegates.

I move the adoption of that suggestion and change.

The motion was seconded and carried.

DR. INSLEY: Transfer of the Eaton County Medical Society from the Third to the Second Councilor District.

DR. INSLEY reread the resolution. (See page 719.)

DR. INSLEY: Your committee in considering that resolution, considering the difference in the manner of application of this resolution as compared with the one read just a moment or so previously, and also considering the matter of annexing governmental units in which both sides had to be considered, whether the annexee or the annexor, therefore decided that as a committee they could not pass upon this matter and placed the resolution before the floor of the House with no recommendation beyond that of referring the matter to the Council. I would simply pass this with no recommendation.

DR. PHILIP RILEY (Jackson): We represent one of the component parts of the annexee. I don't like that word, but we would like to welcome Eaton County into our district, and so I make a motion that the transfer be made. I think that is agreeable with Ingham County.

DR. L. G. CHRISTIAN (Ingham): I wish to support Dr. Riley's motion to bring in Eaton County.

DR. ROY H. HOLMES (Muskegon): In view of the fact that I know personally Dr. Christian and Dr. Riley, I question the mental cerebrations of Dr. Sheets in wanting to be annexed to those two counties. (Laughter.)

DR. RILEY: If things go along all right for two more years we will annex Wayne. (Laughter.)

THE SPEAKER: Those in favor of the motion say "aye."

DR. GEORGE C. HAFFORD (Councilor, Third District): I wish permission to speak on this.

THE SPEAKER: You have permission. The negative vote has not been taken.

DR. HAFFORD: We don't want to disturb any elements, but we question whether this is desirable. Your By-Laws provide for certain districts, and it seems to me if you want to change the district you have to do it according to the By-Laws.

THE SPEAKER: Section 11, Chapter 5, of the By-Laws: "The following county societies shall constitute the Councilor Districts of the State," followed by an enumeration. Those are a part of the By-Laws and Constitution of this Society. It is the ruling of the Chair that in order to make this change it will have to be made in conformity with the provision for changing the By-Laws. Inasmuch as this is the last session of the House of Delegates it cannot be changed at this meeting.

DR. L. J. GARIEPY (Wayne): I want to ask Dr. Brucker if that was not referred to his Committee on Revision of the By-Laws.

THE SPEAKER: There is a question as to whether or not that might have been referred to the Committee on By-Laws. It is the recollection of the Speaker that the Committee on By-Laws was formed subsequent to the introduction of that resolution.

DR. A. G. SHEETS (Eaton): After consultation with our leading men, the men who are considered authorities on the interpretation of our Constitution and By-Laws, I introduced that petition, firmly believing that inasmuch as it was introduced at yesterday afternoon's session and was introduced in triplicate and it laid over until this session today, that we were conforming with the By-Laws and that it could be changed today.

DR. HENRY R. CARSTENS (Councilor, First District): In support of Dr. Sheets' remarks, I quote Chapter 3, Section 7 (e), on the Duties of the House of Delegates: "It shall divide the state into Councilor Districts and direct the formation of district societies." Possibly that being one of the duties of the House, we may construe that this was formal action that would permit of a change of the By-Laws and would cover the point that Dr. Sheets is making.

THE SPEAKER: Does anyone wish to object to that ruling? Do you object, Dr. Sheets?

DR. SHEETS: Mr. Speaker, I object to the ruling of the Chair and appeal to the House.

THE SPEAKER: The decision of the Chair is objected to and the appeal is made to the House. The vote is now on sustaining the decision of the Chair. Those in favor of sustaining the decision of the Chair say "aye," opposed "no." It appears lost; it is lost.

You are now voting on the negative vote of adopting the recommendation of that committee. We had already taken the affirmative vote, you remember. You are now voting on the negative side of the motion, which was to allow the Council to establish Eaton County as a component part of the Councilor District associated with Ingham, Jackson, Hillsdale. Those opposed say "no." It is carried.

DR. R. L. WADE (Branch): Inasmuch as you have taken one county from our district and Hillsdale is connected with the Second District, we should like to be free to solicit the Hillsdale County into the Third District, from which we just have lost Eaton. If that would be a satisfactory arrangement, would it be possible to have a vote on that today, or do we have to wait a year to do it?

THE SPEAKER: We have no law against solicitation, but we can't legally take action on that today.

Are there any further reports from Dr. Insley's committee?

DR. INSLEY: All resolutions referred to your committee have been reported upon.

In the report that was given first here this afternoon, as well, I believe, as one of the reports and recommendations this morning, there was suggested an executive secretary, and I believe we have adopted that principle, have we not? I think this last report brings that in. My only question is to clarify the matter. As it read in the provision for an executive secretary, what is the next step?

THE SPEAKER: We will have it now. The report of the Special Committee on Constitution and By-Laws, Dr. Brucker, Chairman.

DR. KARL BRUCKER (Ingham): Your committee, composed of Drs. Walch, Stapleton, Garipey, Moll, and myself, to whom several matters were referred, met and considered them quite thoroughly.

The first two resolutions here have to do with the same thing. I will read them both. One overlaps the other a bit. The first one refers to Chapter 6, Section 2, of the By-Laws, and it is as follows:

That the By-laws of the Michigan State Medical Society be amended to provide the following: that the Legislative Committee consist of seven members, five to be appointed as at present, the sixth member to be the President-Elect of the State Society and the seventh member to be the Chairman of the Council of the State Society. The President of the State Society shall be a member ex officio.

The other resolution, which is the same thing practically with a little amplification, is as follows:

To amend Chapter 6, Section 2. The Committee on Legislation shall consist of seven members: The President-Elect of the State Medical Society and the Chairman of the Council of the State Medical Society and five members to be appointed by the President for a term of two years, and with the approval of the Council, excepting the first year, when the President shall appoint three men for two years and two men for one year.

The second resolution is a little more inclusive. Mr. Speaker, I move the adoption of the report.

DR. L. J. GARIEPY (Wayne): I support the motion.

DR. BRUCKER: The second one is probably the one that we should vote upon because the first one is not as specific as the second.

THE SPEAKER: You are voting upon the adoption of the resolution as corrected by the special committee. Those in favor say "aye," opposed "no." It is carried.

DR. BRUCKER: The next resolution was introduced by Dr. Hart of Clinton County, to divert medico-legal assessments to other uses of the Michigan State Medical Society and curtail the activities of the Medico-Legal Committee.

Dr. Brucker re-read the resolutions (See page 720 of these proceedings.)

DR. BRUCKER: We went into this quite thoroughly and there are a good many reasons why we could not give an intelligent report which would carry any finality with it. We don't know anything about the amount of funds available in the Medico-Legal Fund. The part of the Constitution which establishes the Medico-Legal Department is quite a voluminous thing, and, furthermore, there was considerable question as to whether some doctors in small communities particularly who do not carry medical protective insurance might be left high and dry if we went out from under them on this. However, there does seem to be some sentiment for some sort of a change in this medico-legal set-up, and your committee felt that possibly it was a subject that should be gone into quite thoroughly. We feel that this could not be legally adopted at this time and that no permanent change or cancellation of this medico-legal thing could legally be done without at least two years notice, and we recommend the appointment of a committee to study and recommend action at the next meeting of the House of Delegates.

Mr. Speaker, I move that this be approved.

The motion was seconded.

DR. C. S. GORSLINE (Calhoun): There was some intimation there that funds were not needed. May I please quote from a report that was handed my committee with regard to medico-legal defense—a report of the Council. The first sentence of this section reads: "Last year the allotment made to our Medico-Legal Committee did not cover the expenses of the defense of members." That is the beginning statement in regard to how the finances of the Medico-Legal Committee stood.

DR. W. C. ELLET (Berrine): In regard to this committee that is to be appointed, is it to be appointed from the House by the Speaker or by the President from the general membership? I don't think there is anything in there that says how it should be formed.

DR. BRUCKER: A committee from the House of Delegates appointed by the Speaker.

DR. ELLET: You should have that in there.

DR. L. J. GARIEPY (Wayne): I support Dr. Brucker's motion for adoption.

THE SPEAKER: What about Dr. Ellet's remarks?

DR. GARIEPY: I think it is very obvious the committee should be appointed from the House of Delegates. Men outside would not be acquainted with it.

DR. BRUCKER: How can we get that in? Can we



simply insert in that that a committee of five be appointed from the House of Delegates by the Speaker of the House? I so amend the report.

**THE SPEAKER:** The report as re-prepared contains the addition that this committee shall be appointed from the House of Delegates by the Speaker. Are you ready for the question? Those in favor say "aye," opposed "no." It is carried.

**DR. BRUCKER:** The next resolution was as follows:

WHEREAS, Under the present Constitution and By-laws of the Michigan State Medical Society it is impossible for a member of the House of Delegates to be elected as a general officer of the Society, therefore be it

RESOLVED, That under Chapter 3, subsection (m) of the By-laws of the Michigan State Medical Society, the following words be deleted: "No delegate shall be eligible to the general offices of the Society hereby defined as President, President-Elect, Editor, Secretary and Treasurer, but may be eligible as Speaker or Vice Speaker of the House."

The committee considered this quite carefully and disapproved of it, Mr. Speaker. I move the adoption of the committee's report.

**DR. L. J. GARIEPY (Wayne):** Since the meeting last evening I investigated somewhat the reason for such a resolution being presented, and was told that last year Dr. Penberthy and Dr. Stapleton were put up as candidates for President when they were members of the House of Delegates. I don't know whether that is true or not, and to avoid any such conflict in the future it was thought the By-Laws had better be rectified.

**DR. BRUCKER:** To clarify that, the By-Laws specify that no member of the House of Delegates can be elected President of the State Medical Society. This rescinds that.

**DR. GARIEPY:** They were elected last year.

**THE SPEAKER:** As a matter of information for the House, Dr. Penberthy's resignation was in my pocket before he was nominated.

**DR. GARIEPY:** That is the reason for this action being put in.

**THE SPEAKER:** As the report from this committee now stands it means that your Constitution remain as is and that there be no change.

**DR. R. V. WALKER (Wayne):** Will you explain what you mean by that?

**THE SPEAKER:** The committee disapproves the recommendation.

**DR. BRUCKER:** The committee disapproves of changing the Constitution so that members of the House of Delegates might be elected to these offices. The committee feels that possibly the House of Delegates might become a body which could elect all these state officers from their own membership and develop into a clique proposition. As it is now, the candidate has to be from outside the House of Delegates, of which we approve.

**DR. I. W. GREENE (Shiawassee):** I can't see much validity in that argument. After all, the members of the House of Delegates are fairly respectable members of the profession of the state, and I never could understand why they were not as eligible for the presidency, the secretaryship, or any other office as someone on the outside. We certainly have had some training in the organization of medicine which is apt to be of value. Of course, to get around this thing, as we did last year, if a member of the House of Delegates is a candidate for the presidency, he simply puts in his resignation. Why not have it above board and have things as they should be? It will be done again. If we pass this change it will not be so much different but we won't be evading the By-Laws.

**DR. W. C. ELLET (Berrien):** I agree with Dr. Greene. I think that this group could hardly be accused of taking all the offices of the State Society, and I think it is a rather embarrassing situation and is apt to lead to a little bit too much so-called

politics if a man wants to run for the office of President if he has to resign. I feel as Dr. Greene does, that this question should be acted on differently than the committee suggests.

**DR. A. G. SHEETS (Eaton):** I am heartily in sympathy with that sentiment. I believe that we have men sitting in this House of Delegates today who are members of the Council. There were some resolutions passed yesterday seating these men, were there not? We respect you, even though you are members of the Council.

**DR. WILLIAM BARSTOW (Gratiot-Isabella-Clare):** I move that the resolution be accepted.

**THE SPEAKER:** It is not necessary to make that motion. This motion is already made. If you vote in the affirmative you are leaving the Constitution as it is.

**DR. T. K. GRUBER (Wayne):** A question of information. If they vote yes on this the Constitution remains the same; if they vote no the Constitution remains the same.

**THE SPEAKER:** The Constitution remains the same but you can't vote on another motion until this motion is taken care of. You can vote no on it and then if somebody wishes to put the thing over he can make a motion.

**DR. GRUBER:** But in either vote the Constitution remains the same. The committee recommended that it be not approved. A negative vote on their recommendation does not change the Constitution one iota. Is that correct?

**THE SPEAKER:** You are correct.

**DR. GRUBER:** So a negative or positive vote doesn't mean a thing. I move to amend the recommendation to the effect that the amendment to the By-Laws be adopted.

**THE SPEAKER:** An amendment cannot be made to a motion that makes the motion completely contradictory.

**DR. A. E. STICKLEY (Ottawa):** I would like to move a substitute motion, that the resolution be adopted.

**DR. ELLET:** I support the motion.

**THE SPEAKER:** Will you explain your motion?

**DR. STICKLEY:** That we adopt the resolution. That provides that any candidate can come from this body. Do I make myself plain?

**THE SPEAKER:** The motion already is before the House to approve or disapprove the report of this committee. No matter what action you take on it, your Constitution will remain the same and a substitute motion may be made but an amendment cannot be made that is completely contradictory to the main motion.

**DR. STICKLEY:** Then I make a substitute motion that we reject the report of the committee and their recommendation.

**DR. A. V. WENGER (Kent):** Has the first motion been seconded?

**THE SPEAKER:** Yes.

**DR. WENGER:** Then you can't offer a substitute motion.

**THE SPEAKER:** Those in favor say "aye"; those opposed say "no." It appears lost, it is lost.

**DR. A. G. SHEETS (Eaton):** This is the question that comes back before the House, as I understand it. What shall we do with the resolution that was presented? We didn't see fit to follow the instructions of the committee to whom it was referred. It is now up to us to dispose of this resolution as we see fit. The Chair stated that if we voted yes we lost and if we voted no we lost. I was a little bit confused and so I will ask to have the resolution re-read.

**THE SPEAKER:** The resolution in sense is that the following words be deleted: "No delegate shall be eligible to the general offices of the Society hereby

defined as President, President-Elect, Editor, Secretary and Treasurer, but may be eligible as Speaker or Vice-Speaker of the House." The deletion of those words will make a delegate of this Society eligible to those offices.

DR. SHEETS: I make a motion that this resolution be adopted.

The motion was seconded by Drs. Stickley and Ellet.

THE SPEAKER: Is there any discussion? Those in favor say "aye," opposed say "no." Unanimously carried.

DR. BRUCKER: I think copies of the next resolution were passed around to all of you. It refers to the set-up of the new executive secretary. (See page 720.)

The proposed changes in the By-Laws are as follows:

Chapter 4, Proposed new Section 4 reads:

The Secretary, an active member of the Michigan State Medical Society, shall be elected by the House of Delegates to serve one year. He shall act in his official capacity at the meeting of the House of Delegates, and in an advisory capacity at other times. The Secretary shall be a member of the Council *ex officio*.

And we have added one little line:

The House of Delegates shall designate the Secretary's salary.

Proposed new Section 5 reads:

The Executive Secretary, not necessarily a physician or member of the Michigan State Medical Society, shall be the custodian of all the records of the Society, shall conduct all the official correspondence of the Society at the direction of the House of Delegates, the Council, the officers and the committees of the Society. He shall be the recording officer of the House of Delegates, the Council, Scientific Assembly and the General Meeting. He shall also discharge the following duties.

Then there are enumerated Nos. 1 to 9 which are specified now in the Constitution, as I understand it, under the duties of the Secretary, but No. 10 is new.

Proposed new Section 6 shall be the same as the former Section 5, merely being renumbered.

Mr. Speaker, the committee approves of this resolution in its entirety with the one change at the top specifying that the House of Delegates shall designate what the Secretary's salary shall be.

I move the adoption of this report.

DR. ROY H. HOLMES (Muskegon): I rise to a point of order. On page 10 of the Constitution:

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the Delegates present at any annual session, provided that such amendment shall have been presented in open meeting at the previous annual session and shall have been published at least once during the year in the Journal of the Society, or sent officially to each component society at least two months before the meeting at which final action is to be taken.

I then refer you to page 8, Section 2 of Article 8:

The Secretary, the Editor, and the Treasurer shall be elected by the Council at its annual meeting in January of each year.

I refer you to Section 4 of Article 9:

The Secretary shall collect all annual dues and all moneys owing to the Society, depositing them in an approved depository and disbursing by him upon order of the Council. The Council shall cause an annual audit to be made of the funds of the Society by certified public accountants, and shall require the Treasurer and the Secretary to be bonded for an adequate amount.

As this entails amending the Constitution, my point of order is that it is illegally before the House at this time.

THE SPEAKER: The Chair sustains your point of order with reference to that particular part as it may involve this portion.

DR. E. D. SPALDING (Wayne): Another point here, Item No. 8. The enumeration of the following duties has nothing to do with the duties of the Secretary:

He shall be elected by the Council and shall be remunerated by a salary, the amount of which shall be fixed by the Council and approved by the House of Delegates.

That belongs in the preamble and should be inserted before the final words:

He shall also discharge the following duties.

Item 8 should be in the preamble and not in the enumerated duties of the Secretary. I move that it be so placed.

DR. T. K. GRUBER (Wayne): Is there anything before the House now?

THE SPEAKER: A motion was just made.

DR. GRUBER: You ruled out of order the whole proposition. This gentleman objected because it was not constitutional and you ruled he was correct.

THE SPEAKER: With reference to certain parts of it.

DR. GRUBER: Certain parts would affect the whole, it seems to me. Is there anything before the House at the present time?

THE SPEAKER: The report of this Committee on By-Laws except that part which was thrown out in conflict with the Constitution.

DR. GRUBER: What part is that?

THE SPEAKER: Perhaps it would be better to read that particular portion that Dr. Holmes is objecting to and then let him make the objection.

DR. HOLMES: That is proposed new Section 4.

THE SPEAKER: Of what, Constitution or By-Laws?

DR. BRUCKER: Of the By-Laws, Chapter 4, Section 4. Proposed new Section 4:

The Secretary, an active member of the Michigan State Medical Society, shall be elected by the House of Delegates to serve one year. He shall act in his official capacity at the meeting of the House of Delegates, and in an advisory capacity at other times. The Secretary shall be a member of the Council *ex officio*. The House of Delegates shall designate the Secretary's salary.

DR. HOLMES: I did not object to this because it was simply a loosely made amendment. I hesitate, in my ignorance of the proceedings of this Society, to criticize anyone for presenting an amendment to the By-Laws, but I think that even the rather casual perusal of this amendment will convince anyone that it is very carelessly put together. From a theoretical point of view, a parliamentary point of view, I can't conceive of how any of it can be considered a legal amendment without changing the Constitution. If the Constitution is not changed, then the entire change in the By-Laws means nothing. We have noticed in the last couple of days a tendency on the part of this organization to trifle with our Constitution. Being a rock-ribbed Republican, I object to tampering with *any* Constitution. If anyone can conceive of changing the By-Laws in accordance with this arrangement I wish they would tell us how. I wish to qualify my statement, that I am heartily in favor of an executive secretary, and for the benefit of those who favor Mr. Burns, I consider Mr. Burns excellent timber for such a position, but I do object, besides the fact that it is entirely illegal and unconstitutional, to several other factors in it. If the Chair rules that only these small portions are contrary to parliamentary rules, I would like the privilege of stating further why I object to the entire set-up.

THE SPEAKER: That is your privilege.

DR. HOLMES: We have all damned the Council. I have done it as well as the rest of you fellows, the same as we have cursed the House of Repre-



sentatives and the Senate of the State of Michigan and the House of Representatives and the Senate of the United States, but still we would hesitate to take from the Senate or the House of Representatives the authority and the responsibility that have been given to them since the country started and since the state started. I hold the same way with the Michigan State Medical Society. In this set-up you are taking from the Council, you are taking from the Secretary of the State Medical Society most of their responsibility and authority to dictate the business relations of the Michigan State Medical Society. Practically every one of you has gone out and fought for medical control of medical subjects, and I do object to having a layman in a position where he is not definitely under the finger and control of our previously organized set-up handling the affairs of the Michigan State Medical Society.

DR. L. J. GARIEPY (Wayne): My friend Dr. Holmes has not studied this thing or has not been in contact with the Society closely enough to know that for the last four years we have been trying to put through a different organization. We are tired of the old organization's inactivity. You can speak of the Council being fine and all that, but I don't think they are so fine, I don't think that any Secretary can devote enough time to put this organization where it should be. I don't know of any man who could leave his practice—I don't think you would, Dr. Holmes—for the amount of money that is paid the Secretary. We can't expect that. We have got to have a man to do the work for us. He will be under the Secretary, under the Council, under the President, and under anyone else that you want. We have got to do something, gentlemen. We can't put this off for another year. The House of Delegates instructed the Council last year to appoint an executive secretary. We didn't go any place. Why didn't we go some place? That is what we want to know. We definitely want an answer to that. I think Dr. Holmes is not aware of all the things that have happened. I don't think that we should wait. The time has come when we have got to do something. If we don't it will be just too late.

DR. L. G. CHRISTIAN (Ingham): There may be some differences here, but I am sure that this thing can be ironed out. I feel that it is the sense of this body that we want a business office, and I feel that none of us can object to putting certain checks, if you will, to meet Dr. Holmes' objections. We have worked around here now for a couple of days, and about the time that we begin to congratulate ourselves because we are doing something, we bust it up. So far as I am concerned, I know that Dr. Holmes has the solution and I would like to have him tell us how to work this thing out with his checks and balances, if you will, and let us go on.

THE SPEAKER: The Chair sustained Dr. Holmes' objection because you were adopting an amendment which was diametrically opposite to a provision in your Constitution, and the Chair did not like to have the Michigan State Medical Society go down in history as changing your Constitution, or in other words having an amendment that was directly in contradistinction to what was stated in the Constitution.

The Chair would suggest that this resolution be returned to the committee for a report in fifteen or twenty minutes, whatever time is convenient, if the House would accept that suggestion.

DR. JULIUS POWERS (Chairman of the Council): I would like to have the Secretary of the Society give us a report as to the minutes of the meeting a year ago, as to whether, as Dr. Gariepy says, we were ordered by the House of Delegates to appoint an executive secretary. I don't recall any such

orders and I don't believe that any such orders were given to the Council.

THE SPEAKER: Will the Secretary volunteer the information?

THE SECRETARY: Following the resolution that the Michigan State Medical Society employ a full-time executive secretary who had a background of medical organization work, journalistic experience, and legislative contacts (reading minutes):

It was the opinion of our committee that a problem as weighty as this should be transferred to the Council of the Michigan State Medical Society for their consideration, and I so move, Mr. Speaker, that that be done. . . . We recommend that the information contained in this resolution be transferred to the Council for their consideration. It is not the province of the House of Delegates to pass upon this.

THE SPEAKER: Is the recommendation of the committee perfectly clear to everyone? It has been moved and supported. Those in favor say "aye"; those opposed say "no." It is carried.

DR. ROY H. HOLMES (Muskegon): I don't know whether I am out of order or not. I would like to ask the privilege of the Speaker of the House to tell the ways in which I think this could be settled, and how it could be settled so there will be no confusion. That is, in some legal way the error in attempting to change the Constitution in a single year is taken care of.

DR. L. J. HIRSCHMAN (Wayne): A point of order. I am just as anxious to get this thing cleared up as we all are. I think we are all getting tired sitting around here and not getting anywhere. At the present time we are under the order of business of Reports of Reference Committees, are we not?

THE SPEAKER: We are.

DR. HIRSCHMAN: This particular resolution has been declared out of order by you as unconstitutional.

THE SPEAKER: It is unconstitutional.

DR. HIRSCHMAN: There is no question about that. I think we understand and realize it is unconstitutional, and yet we want this put over. My point of order is that there is a time a little later on when we can hear this, but under the present order of business we are not getting anywhere because it is not the order of business. Your suggestion, Dr. Holmes, can be presented later on, I think, and will go right through. Is that right?

DR. HOLMES: Right.

THE SPEAKER: We are back to the point of accepting the recommendation of Dr. Brucker, which was declared unconstitutional, and that ends the action. Have you any further reports, Dr. Brucker?

DR. KARL BRUCKER: That is all.

DR. T. K. GRUBER (Wayne): A question of information. How can this matter be brought before the organization.

DR. HIRSCHMAN: New business.

DR. GRUBER: When?

THE SPEAKER: This afternoon.

DR. GRUBER: Is it necessary to recess, or what is it necessary to do? If some person who has the information will tell me what to do I will make a motion, because I would like to see something done.

DR. L. J. HIRSCHMAN (Wayne): I will put my cards on the table. I had no intention of trying to introduce the matter this afternoon. It has to lay over a year. I believe the amendment should be introduced to be acted on next year, but in the interim under new business if somebody will make a motion directing the Council to appoint an executive secretary at once, who shall do so-and-so, and then give this list, we direct them to do it at once and it will have to be done and there you've got it.

THE SPEAKER: Does that answer your question?

DR. GRUBER: I still would like to know what is necessary to get it before the organization.

THE SPEAKER: Dr. Hirschman will bring it up under unfinished business, or new business.

We are still in executive session. Although we have a newspaper man in our midst, he vouched to me that he would release no matter except with the consent of the Speaker.

MR. SMITH: Mr. Speaker, the Sergeant-at-Arms was not at the door and I walked in, here I am, and I will walk out in the same way.

THE SPEAKER: His arising is a pledge of non-release until such time as may be granted.

THE SPEAKER: The Reference Committee have one item that is not settled yet. That is Dr. Gorsline's committee.

DR. C. S. GORSLINE (Calhoun): It has to do with this last part of the committee's report on the Report of the Council.

The final item in the Council's report has to deal with the doubtful advisability of requesting federal funds for supplemental medical care to employees on work relief as being a gesture toward further federal control and socialization of medical practice. We believe that this question is so controversial and so important as to deserve a free and full discussion by this House of Delegates, and it is offered here without comment.

I move the adoption of this portion of the committee's report, Mr. Speaker, to bring it to discussion.

The motion was seconded.

DR. GORSLINE: The Council brought up in the final paragraph of this report practically what we emphasized. We did not either affirm or deny or alter what the Council reported, but felt that it was of so much importance for the reasons stated and read a moment ago that it should be a matter for the consideration of the entire House of Delegates.

DR. STANLEY W. INSLEY (Wayne): God knows there is nobody who is more in favor of trying to avoid socialization of medicine than I am, and yet it is rather hard for me to grasp the meaning of that resolution, because already it seems that the Delegates have decided that if they render a needed medical operation, if you will, they have a perfect right to ask payment for it. Whether a city or county is bankrupt and perhaps some additional moneys might have to be poured in through federal sources is beside the point. We have already, as I take it, decided that if we do these operations, if we give this medical care, we are entitled to a little bit of money for it. I may be wrong and I stand corrected if I am, but now we are turning around here and saying that we don't want any of these moneys.

DR. GORSLINE: Our contemplation, Dr. Insley, was this: It appeared to us as a committee that this matter was to be dealt with by the Economics Committee in their report, which would come in subsequent to this. We did not feel as a reference committee that we should encroach upon the prerogatives of that committee, and therefore we sort of handed it along (we thought we were at least) to be considered and discussed under the Economics Committee's report with which it seemed to be practically in unison. We did not feel that we should presume to make any recommendation until the House had gone over the report of the Economics Committee, which now has been done, but had not been done at that time.

DR. STANLEY W. INSLEY (Wayne): May I move, then, that this resolution be accepted—I don't believe that means adopted.

DR. GORSLINE: It is already moved.

DR. INSLEY: Simply for acceptance.

DR. A. V. WENGER (Kent): I move that this part of the report be laid on the table.

The motion was seconded by Dr. L. J. Hirschman, Wayne, and carried.

THE SPEAKER: Have all reference committees completed their reports? Is there any new busi-

ness that any member or officer of this Society would like to bring up in this executive session?

DR. ROY H. HOLMES (Muskegon): I wish at the present time to propose an amendment to the Constitution and By-Laws to be taken care of at the next annual session, which will officially provide for the duties and control of the executive secretary.

THE SPEAKER: Do you wish to make such a motion?

DR. L. J. HIRSCHMAN (Wayne): I think if the doctor will ask for unanimous consent to introduce this new business he will be quite in order to introduce an amendment.

THE SPEAKER: This is neither new business nor unfinished business. You have a right to introduce something that lays over a year not as new business. It can come later under new business.

DR. HOLMES: I asked as a point of order if it should come now.

THE SPEAKER: We will give you a chance, Dr. Holmes. Everybody will be given an opportunity to say everything they want to before this meeting is over.

Has any other member anything, personal or otherwise, to bring up in this executive session?

DR. ALFRED LABINE (Houghton-Keweenaw-Baraga): If you will peruse this official program you will find neither Houghton, Keweenaw or Baraga's name. I was told yesterday that that was because they did not receive the name of the delegate. In my experience one delegate, unless he be a very prominent man, is very immaterial, but the county at least should have its name in here, and it seems to me in so far as we are still an integral part of the State of Michigan and its Society, the name of the county at least should be included and that if the name of the delegate has not been received a question mark can be placed there.

THE SPEAKER: Has any other member any suggestion or recommendation to make in the executive session? If not, a motion to rise from executive session is in order.

A motion was regularly made, seconded and carried that the House rise from executive session.

THE SPEAKER: We are now convened in regular session. The next order of business is Elections. At this point the Chair would like very much to take an opportunity to thank the members of the House of Delegates who have worked so hard, earnestly, faithfully, on their reference committee work. The Chair appreciates it very much and I am sure that the other members of the House appreciate your efforts.

I appoint Dr. Barrett, Dr. Jiroch, Dr. Bryan and Jim O'Meara as Tellers, also Dr. Huntington. The Tellers will advance to the Speaker's desk and prepare ballots. In the meantime, nominations for President-Elect are in order.

DR. A. G. SHEETS (Eaton): Mr. Speaker and Fellow Delegates: I have been a resident of Michigan all my life; all my life I have been connected with organized medicine; for many years I have been associated with you. I have always been loath to come before you and ask you for anything. I think, gentlemen that this is the first time that I ever faced you and asked you for a favor.

In looking over the history of our organization I was impressed with the fact that the men whom you have selected for the exalted position of President during the past have been chosen largely from the ranks of the specialists. Your present President—a specialist; your President whose term of office is now expiring—a specialist; the man who preceded him, George LeFevre—a specialist; the honorable gentleman who preceded him—a specialist, my friend Milton Romm. And so as you go along down the line you will notice that you have been very, very pleasing to these men. Now it is not my office to criticize you. You have acted



wisely and well. These men's names are closely associated with organized medicine in the State of Michigan and we respect you and honor you for the wise selections that you have made. But today, my friends, I come before you asking you to give some consideration to the general practitioners, the men who constitute the rank and the file, if you please, of the membership of this great institution of ours.

Looking a little apart, I notice that in the Northern Peninsula there have been but few men selected for this honorable position. Twenty years have elapsed since you have seen fit to take a man out of Northern Michigan. And so, my friends, I am bringing to you this afternoon a man who lives in the Northern Peninsula.

Now when the storm clouds are hovering around our great institution and dissension and discord are threatening from within, it is necessary that we make a wise selection. So I bring to you, gentlemen, from the North a general practitioner, a man who has spent his life in Michigan, a man who has spent his life in the practice of medicine, true to the traditions of our institution, has fulfilled his obligations to citizenship, has been exalted to the high rank of legislator, has discharged all of the duties and obligations of citizenship in his own community, and has manifested a degree of ability which is unquestioned for any position which we may see fit to honor him with.

This last winter when we were having a rough time and hard going down at Lansing on legislative matters, he turned the key in his door, closed the old home, climbed into his Ford and moved down to the City of Lansing, and for five long months toiled day and night for the principles of organized medicine, and when success had crowned his efforts he went back to the bosom of his family and into the arms of his friends.

Today, gentlemen, I bring to you this man. I want to call your attention to this one thing: what an eloquent gesture it would be, here in the great Northland, guests of this great City of Sault Ste. Marie, to select from out of their community a man and pay tribute to him! I ask you, my friends, to do this, and it is a pleasure and a privilege for me to bring you the name of Henry E. Perry. (Applause)

DR. J. J. WALCH (Delta): I support the nomination, and in supporting the nomination I wish to state that we in the Upper Peninsula have been casting about for several years for a candidate for this office. It has been years since a man from the Peninsula has been a President of the Michigan State Medical Society; I think it is fifteen or twenty years since Dr. Hornbogen of Marquette was our President. At this time I take pleasure in seconding Dr. Perry's nomination.

DR. L. O. GEIB (Wayne): You have heard the qualifications of Dr. Perry very well stated. I cannot improve upon them. As a general practitioner I can but emphasize the fact that I think it is high time that the general practitioner should have the opportunity to serve us as he will serve us, for the good of the medical profession and the good of the community. I therefore, as a general practitioner from Detroit, wish to endorse and second the nomination and the candidacy of Henry E. Perry.

DR. C. F. MOLL (Genesee): Mr. Speaker and Members of the House of Delegates, I haven't the oratorical gift of my dear friend Sheets, and I will have to depend somewhat on putting my candidate over with the words of Shakespeare: "An honest tale speaks best when plainly told." I as a general practitioner take pleasure in presenting to you the name of a man who has been an active member of your Society for more than twenty-five years, a member of your House of Delegates on various occasions, President of his county society, a member

of the Michigan Medico-Legal Committee, a member of your Legislative Committee on various occasions, for two years its chairman, a man who got his early training in the Upper Peninsula, who gave a hostage to the Upper Peninsula by marrying the daughter of one of the pioneer founders of the copper company, who now lives in the capital of the state, a city that has not had a president in over forty-one years. He is a man with the enthusiasm of youth, tempered and mellowed by and with the judgment of twenty-five years of experience, a man of dynamic personality, a diplomat. I take great pleasure in presenting to you the name of Earl Carr of Lansing. (Applause)

DR. L. G. CHRISTIAN (Ingham): I wish to support the nomination of Dr. Carr. You all know him. As Dr. Moll has said, he has been an active member; he has served on many of our committees. My county society requested that his name be placed in nomination. We trust that you will give it serious consideration.

DR. C. S. GORSLINE (Calhoun): The delegates from Calhoun County give their unanimous endorsement to Dr. Carr for President-Elect.

DR. J. M. ROBB (Wayne): It has been my great privilege to have had Dr. Carr serve as Chairman of the Legislative Committee when I was the President of this Society. I know the unusual ability of the candidate Dr. Sheets has presented. I still feel that we have in Dr. Carr of Lansing a man with unusual ability to take care of the problems that we face in Lansing. He has the distinct advantage of living there and is continuously on the job and in contact with the legislators. He has all the other qualities that Dr. Moll and Dr. Christian and Dr. Gorsline have mentioned. It gives me great pleasure to support the nomination of Dr. Earl Carr.

DR. F. C. BANDY (Chippewa-Mackinac): Mr. Speaker, I want to support the nomination of Dr. Perry. I have known him for about twenty-two or twenty-three years. I lived in the same town with him. I know of the respect and esteem with which he is held in his own county, in his own home, and I know he has a lot of good common horse sense. He has been a successful practitioner; he has always had the interests of organized medicine at heart; his services in the legislature you know as much about as I do; he was invaluable down there as a member and he was also invaluable as a member of our Legislative Committee.

The fact that we haven't had a President for a good many years I think should be considered too. I earnestly endorse the nomination of Dr. Perry.

DR. C. F. WHITESHIELD (Ontonagon): Mr. Speaker and Delegates: The Upper Peninsula cordially welcomes all of you men from below. We go down to visit you once in a while, we spend some money down there, and we are glad to see you come up here and have to spend some.

We need for President of this Society a physician who is a general practitioner from the Upper Peninsula, for the reason that we have not had one for a long time, and we could not get a better man than Dr. Perry, whose record stands before you in the legislature and in the medical activities of this state.

Where does this man live in this beautiful country here? He lives:

Where the long trail winds  
Through the spring pines  
And the birds in summer go,  
Where the brook trout leap  
Through the rivers deep  
And the cool, sweet breezes blow,  
Where the Indian canoe  
Shoots the rapids through  
And chases the deer and the bear,  
Where the partridge flies  
And his shy mate finds—  
The North begins right there.

And the North man is the man we want. (Applause)

DR. C. R. KEYPORT (O. M. C. O. R. O.): I move that the nominations be closed.

The motion was seconded by Dr. T. K. Gruber, Wayne, and carried.

THE SPEAKER: The Chair declares the nominations closed.

Balloting.

THE SPEAKER: Dr. Perry has received 51 votes, Dr. Carr 23.

DR. L. J. GARIEPY (Wayne): 'How many delegates were seated?

THE SECRETARY: Seventy-five is the total number registered.

DR. C. F. WHITESHIELD (Ontonagon): I move that it be made unanimous for Dr. Perry.

The motion was seconded.

THE SPEAKER: It is moved and supported that Dr. Perry be designated the unanimous choice of this House as President-Elect of the Michigan State Medical Society. Those in favor say "aye," those opposed "no." I now declare Dr. Perry elected to the office of President-Elect of the Michigan State Medical Society.

The next order of business is the election of Delegates and Alternates to the American Medical Association.

DR. R. C. JAMIESON (Wayne): I am not coming here today to ask for something, nor have I the oratory to make a speech, but I am here today to give you something, and I am going to give you the name of a man who has had a great deal of experience, a man who I think is known to everybody here as a man who has had enough experience with the American Medical Association meetings so that he will be invaluable to us—Dr. Louis J. Hirschman, of Detroit.

DR. C. F. MOLL (Genesee): I second the nomination.

DR. VIVIAN VANDEVENTER (Marquette-Alger): I second the nomination.

A motion was regularly made, seconded and carried that the nominations be closed.

THE SPEAKER: The Speaker declares the nominations closed.

DR. J. D. BROOK (Kent): I move that the rules be suspended and the unanimous ballot of this House of Delegates be cast for Louis J. Hirschman as Delegate to the American Medical Association.

The motion was seconded by Drs. C. S. Gorsline and C. F. Whiteshield, and carried.

THE SPEAKER: Mr. Secretary, will you cast the ballot?

THE SECRETARY: I so cast the ballot.

THE SPEAKER: I now declare Dr. Louis J. Hirschman duly elected for the term of two years as Delegate to the American Medical Association.

Election of Alternates.

DR. KARL BRUCKER (Ingham): I wish to propose the name of George Curry of Flint as Alternate.

THE SECRETARY: May I ask a question? Unfortunately through an error it turned out that at the last election Dr. Andrews was not legally elected because of the fact that he was not a Fellow of the American Medical Association, so that there is another vacancy. That was taken care of immediately, but he couldn't be accredited by the American Medical Association.

DR. A. V. WENGER (Kent): I nominate Dr. F. T. Andrews of Kalamazoo.

DR. ROY H. HOLMES (Muskegon): I second the nomination.

DR. F. T. ANDREWS (Kalamazoo): Just a moment, gentlemen. I want to say this in explanation of the circumstances. Last year when I was placed in nomination I belonged to the American Medical Association, but I had dropped my membership the

previous year, and because of an economic situation and economic stress I dropped my Fellowship, so I am not eligible until two years have elapsed. I made the effort of reestablishing myself by writing to Dr. West and stating that I would gladly pay up my dues for the previous year, which I had dropped, but they refused to accept that. I paid up my dues last year, but until two years have elapsed I would not be eligible. This year I am still not eligible.

THE SPEAKER: The Chair would rule that there is still a vacancy in the Alternates.

DR. W. C. McCUTCHEON (Cass): I wish to second the nomination of Dr. George Curry.

THE SECRETARY: There are to be three: for Dr. Andrews, for Dr. Moll, for Dr. Chester.

THE SPEAKER: The Speaker will read the Constitution and By-Laws with reference to the election of Alternates.

The number of alternate delegates to the American Medical Association shall equal the number of delegates. Alternate delegates shall hold office for two years. At each annual election candidates for alternate delegates at large shall be nominated in equal number to or greater than the number to be elected. Election of alternate delegates shall be by ballot. The required number of high candidates shall be declared elected. Alternates at large so elected shall have relative seniority according to the respective number of votes received by them and such seniority rank shall be designated at the time of the election. In case of a tie between any number of high candidates, a second ballot shall be taken only on the candidates who are tied. In case more than two candidates are tied, they shall be voted on two by two in alphabetical order, the defeated candidate of the second ballot being voted on with the next remaining candidate on the third ballot. In case of a tie still resulting, the Speaker and Vice Speaker shall each fill out a secret ballot, one of which shall be drawn at random by the chief teller. In case the Speaker and Vice Speaker are not both present, the tie may be decided by a vote of the Chair or referred to the Council as the Chair may prefer.

THE SECRETARY: The vacancies are those of Carl F. Moll, J. L. Chester, and F. T. Andrews.

THE SPEAKER: In view of that, the nominations are still open.

DR. C. F. SNAPP (Kent): I should like to place in nomination the name of Dr. Carl Moll of Genesee.

DR. C. F. MOLL (Genesee): I have asked not to be placed in nomination.

DR. C. R. KEYPORT (O. M. C. O. R. O.): I wish to place in nomination the name of Dr. L. F. Foster, of Bay.

DR. ROY H. HOLMES (Muskegon): I support Dr. Foster's nomination.

DR. W. L. VAN DUZEN (Wayne): I should like to place in nomination the name of Dr. J. L. Chester.

DR. C. F. MOLL (Genesee): I wish my name withdrawn.

DR. J. L. CHESTER (Wayne): I also request that my name be withdrawn.

THE SECRETARY: Is the request of these men to have their names withdrawn acceptable to the House?

THE SPEAKER: I think the Chair will rule that a member has permission to withdraw his name.

DR. R. V. WALKER (Wayne): I nominate Dr. J. J. Welch of Delta.

DR. C. F. WHITESHIELD (Ontonagon): I support that nomination.

DR. L. J. GARIEPY (Wayne): I nominate Dr. Ralph Pino of Wayne. We haven't an alternate there and I think we should be represented.

DR. I. W. GREENE (Shiawassee): I move that nominations be closed.

THE SPEAKER: The Chair declares the nominations closed.

DR. L. J. HIRSCHMAN (Wayne): A point of information. Do I understand that one of these Delegates is elected for a two-year period and the one to replace Dr. Andrews for a one-year period to fill a vacancy? That should be designated before we proceed to ballot.



THE SPEAKER: The Chair would rule that the one that replaces Dr. Andrew is elected for the completion of his term.

DR. PHILIP RILEY (Jackson): What difference does it make if he is for two years?

DR. L. J. GARIEPY (Wayne): Do we vote on three men?

THE SECRETARY: Three instead of two.

DR. GARIEPY: We are to pick three out of the four nominated, because there are three places to be filled and they are to be filled in accordance with the number of votes they get. Is that not right? Then we vote for three men.

THE SECRETARY: Yes.

DR. J. J. WALCH (Delta): I would like to have my name withdrawn and that will simplify matters.

DR. ALFRED LABINE (Houghton): I move that the Secretary cast one ballot for the three remaining names.

THE SECRETARY: In order?

THE SPEAKER: It can't be done. According to the Constitution it must be by ballot. The remaining names are Curry, Foster, and Pino.

DR. T. K. GRUBER (Wayne): Are we going to put three names on the ballot, or just one? If you put three on they will all get the same number of votes.

DR. L. J. HIRSCHMAN (Wayne): A point of order. You still have not announced to the House in the event of three men being elected which one should be elected for one year to fill the vacancy and which for full two-year terms. We have to know for whom we are voting. One of these men to be elected for one year and two for two years must be designated in some way before you proceed to ballot.

THE SPEAKER: The Speaker would entertain a motion. According to Dr. Gruber's statement, you must make three separate ballots; you cannot write three names on one ballot. If the House will agree, the one receiving the lowest number of votes shall be designated as the individual filling Dr. Andrews' unexpired term.

DR. L. J. HIRSCHMAN (Wayne): There are only three candidates and there are three vacancies.

DR. BASIL L. CONNELLY (Wayne): This can all be simplified by putting the names in the order that you want them and the one receiving the lowest number of votes on the slip will be the one to be elected for one year. In other words, if you want Curry as your first Alternate, place him at the top of your list, Foster second, Pino third. That can be very easily figured out.

DR. L. J. GARIEPY (Wayne): Why not save time and draw cards out of a deck or straws or something of that kind?

THE VICE SPEAKER: A year ago in your absence, Mr. Speaker, I conducted this election and we had just the same thing. It was then quite agreeable to the House that the names be placed in a hat and drawn, the first name out received the longest term of office.

THE SPEAKER: Is that method of procedure agreeable to the House? (Assent)

DR. A. G. SHEETS (Eaton): I make a motion that the rules be suspended and the Secretary be instructed to cast the ballot for the three names on the blackboard, and that we settle the order of seniority by drawing as suggested by the Vice-Speaker.

The motion was seconded by several Delegates and unanimously carried.

THE SECRETARY: The Secretary casts the ballot for the three nominees: Dr. George Curry, Dr. L. F. Foster, Dr. Ralph H. Pino, for Alternate Delegates to the American Medical Association.

THE SPEAKER: It is understood that the first

drawn out shall be the highest, second the second highest, third for the unexpired term.

The names were drawn by Dr. Kathryn Bryan.

THE SPEAKER: The Chair declares that you have elected Dr. George Curry ranking Alternate, Dr. Pino next, and Dr. Foster to fill the unexpired term.

Next is the election of Councilors. The Constitution provides under the Election of Councilors, under By-Laws:

It shall elect the Councilors upon the nomination of the Delegates of a Councilor District whose Councilor's term expires.

The Second District Councilor term expires, Dr. J. E. McIntyre. Nominations from the Delegates of that Councilor District are in order.

DR. PHILLIP RILEY (Jackson): Down in Jackson we love our neighbors as we love ourselves. I would like to nominate Dr. J. E. McIntyre.

DR. KARL BRUCKER (Ingham): We get along pretty well with Jackson there and we would like to have him come back as Councilor. I support the nomination.

DR. R. B. HARKNESS (Barry): I am glad to be able to second the nomination of such a very valuable person as Dr. McIntyre.

THE SPEAKER: Are there any further nominations? If there are none, the Chair declares the nominations closed.

DR. J. D. BROOK (Kent): I move the Secretary cast the unanimous ballot for Dr. J. E. McIntyre as Councilor for the Second District. (Seconded and carried)

THE SECRETARY: The Secretary does so cast.

THE SPEAKER: The Chair then declares Dr. J. E. McIntyre elected Councilor for the Second District for a period of five years.

The next is Councilor from the Third District, Dr. George C. Hafford's term expiring.

DR. C. S. GORSLINE (Calhoun): I wish to say that our curtailed District has been canvassed, namely Dr. Wade from Branch and the delegates from Calhoun (St. Joe is not represented) and we are unanimous in nominating Dr. George C. Hafford to succeed himself.

DR. F. T. ANDREWS (Kalamazoo): I move the nominations be closed. (Seconded and carried)

DR. T. K. GRUBER (Wayne): I move the Secretary cast the ballot for Dr. Hafford as Councilor for the Third District.

The motion was regularly seconded and carried.

THE SECRETARY: The Secretary does so cast.

THE SPEAKER: The Speaker declares Dr. George C. Hafford elected Councilor of the Third District. Councilor for the next vacancy, the Fifteenth District, Dr. Frederick A. Baker. Nominations are in order.

DR. FRANK MERCER (Oakland): I would like to nominate Dr. Frederick Baker to succeed himself.

DR. L. G. CHRISTIAN (Ingham): I move the nominations be closed.

The motion was seconded and carried.

DR. JAMES O'MEARA (Jackson): I move the Secretary cast the ballot for Dr. Frederick Baker as Councilor of the Fifteenth District.

The motion was seconded and carried.

THE SECRETARY: The Secretary does so cast.

THE SPEAKER: The Speaker now declares Dr. Frederick A. Baker elected Councilor for the Fifteenth District.

Sixteenth District, Dr. A. S. Brunk retiring. Nominations are in order.

DR. W. L. VAN DUZEN (Wayne): I would like to nominate Dr. A. S. Brunk to succeed himself.

DR. L. O. GEIB (Wayne): As a member of the East Side Medical Society, located in the District in which Dr. Brunk serves, sometimes known as the

"war department," I wish to second the nomination of Dr. Brunk.

THE SPEAKER: Are there any further nominations?

DR. L. J. GARIEPY (Wayne): I want to reiterate the statement that I have made several times that I firmly believe and I think you gentlemen will too. The opportunity did not present itself before when nominations were made for the other Councilors, but I feel that for the benefit of this Society and for its good and for its future, we should change our Councilors once every five years. This is not a life job. They can learn the job if they are on for a year and meet often enough. I feel that some action should be taken at this meeting under new business so that within the next year we can amend our By-Laws to let each man be appointed for a term of five years and in that way we will give the Society a transfusion every year.

THE SPEAKER: The Chair declares the nominations closed.

DR. L. J. HIRSCHMAN (Wayne): I move you, sir, that the Secretary be instructed to cast the ballot for Dr. A. S. Brunk as Council for the Sixteenth District.

The motion was seconded and carried.

THE SECRETARY: The Secretary does so cast.

THE SPEAKER: The Chair declares Dr. A. S. Brunk elected as Councilor for the Sixteenth District for a period of five years.

The next order of business is the place of the 1936 meeting.

DR. PHILLIP RILEY (Jackson): I have been waiting to catch you up on something for a long time. The Twelfth District has no Councilor. We just elected him President-Elect.

THE SPEAKER: By the election of Dr. Perry as President-Elect of this Society, the Chair would interpret that there is a vacancy existing in the Twelfth District. The Chair is in doubt as to whether a vacancy does exist or not. Is there anything in the Constitution that he can't be both?

DR. L. J. HIRSCHMAN (Wayne): Does the selection of an individual as an officer-elect elect him to an office? He doesn't take office for a year. I believe the interpretation is that he still holds office.

THE SPEAKER: He takes office, Dr. Hirschman, as President-Elect, and as President-Elect he has certain duties.

DR. HIRSCHMAN: He is not installed in office for one year.

THE SPEAKER: He is not installed as President, but he is installed as President-Elect.

DR. HIRSCHMAN: The gentleman behind me has settled the question: he is a member of the Council ex-officio as President-Elect. There is a vacancy.

THE SPEAKER: The Chair declares a vacancy in the Twelfth District. The delegates from the Twelfth District are entitled to make nominations for Councilor for that District. The Twelfth District includes Chippewa-Mackinac, Delta, Luce, Marquette-Alger, Schoolcraft.

THE SECRETARY: I can only speak as to precedent. The precedent is that the Councilor who has come up for election in the past resigned before his election and the appointment was made by the Council and the President.

DR. I. W. GREENE (Shiawassee): When Dr. LeFevre was elected, the Council elected a Councilor to succeed him that night.

DR. JULIUS POWER (Chairman of the Council): Dr. LeFevre had resigned previous to that.

THE SPEAKER: There isn't any vacancy because he hasn't resigned yet.

DR. L. J. HIRSCHMAN (Wayne): It has always been the custom if a vacancy occurred during the year that the President made the nomination and

it was confirmed by the Council. At the present time we are in session and this is the time to elect a man to fill the vacancy. It isn't necessary to have the President appoint anyone. He can be nominated and elected now. We are right at the time of election of Councilors; the vacancy is here.

THE SPEAKER: The Chair is in doubt as to whether he can rule that a vacancy exists.

DR. J. J. WALCH (Delta): I place in nomination the name of Dr. F. C. Bandy of the Soo for Councilor of the Twelfth District.

DR. C. F. WHITESHIELD (Ontonagon): I second the nomination.

THE SPEAKER: The delegates of this District have placed in nomination the name of Dr. Bandy.

DR. PHILLIP RILEY (Jackson): I move the nominations be closed.

The motion was seconded and carried.

THE SPEAKER: The Chair declares the nominations closed.

DR. F. T. ANDREWS (Kalamazoo): I move the Secretary cast the unanimous vote for Dr. Bandy as Councilor of the Twelfth District.

The motion was seconded and carried.

THE SECRETARY: The Chair now declares Dr. Bandy elected for the unexpired term of Dr. Perry. Any further additions, Dr. Riley?

DR. PHILLIP RILEY (Jackson): Yes. I was wondering if it was vacant. Dr. Penberthy is still our President-Elect so Dr. Perry can't be.

DR. HENRY E. PERRY, the newly elected President-Elect, was escorted to the rostrum.

THE SPEAKER: Dr. Perry has resigned as Councilor of his District. (Laughter.)

DR. HENRY E. PERRY: Mr. Speaker, Gentlemen of the House of Delegates: I have been informed that you have elected me President-Elect of the State Society. I appreciate this honor very much. At the same time I am aware of the large responsibility and the large amount of work that goes with the office, but I assure you that I will give you my best efforts to make the Michigan State Medical Society a harmonious society, a progressive society, and a larger society. Thank you very much. (Applause.)

THE SPEAKER: The next order of business is the place of the 1936 meeting.

DR. HENRY COOK (Councilor, 6th District): At this time, in behalf of the Genesee County Medical Society, I would like to invite the Michigan State Medical Society to meet in Flint next year. When we applied for the meeting last year we filed with the Council all of the information in regard to the facilities which we have at Flint to take care of the Society. I believe that we can and will adequately supply you with those facilities. 1921 was the last time, I understand, that the Genesee County Medical Society entertained the Michigan State Medical Society. Again it is a pleasure for me to invite you to come to Flint and be entertained by the Genesee County Medical Society. Thank you. (Applause.)

DR. R. C. JAMIESON (Wayne): I have here with me, Mr. Speaker and Members of the House, a great deal of correspondence. I won't bore you with all of it, but the first letter is a very cordial and warm invitation from the Wayne County Medical Society to the Michigan State Medical Society to hold its next meeting in Detroit.

Detroit has been favored with a meeting of the Michigan State Medical Society only once in the last fifteen years. I believe that was 1928. If the House of Delegates will favorably consider this invitation, the Wayne County Medical Society pledges all efforts to make the next meeting a memorable one. All facilities of a scientific and social nature will be organized to make a success of the 1936



Convention, and no work will be spared to make the medical guests in Detroit thoroughly satisfied with their visit.

Not only the medical men, but also the other citizens of Detroit are anxious to have you. I have a letter here signed by Mayor Frank Couzens. I have letters here from the Convention Bureau, from the Board of Commerce, which I will not take the time to read, but I consider it a privilege and a pleasure to extend this cordial and warm invitation to you to come to Detroit next year.

DR. F. T. ANDREWS (Kalamazoo): May I ask for a little information? I believe that the invitation to any city has to be in the hands of the Council sixty days before the meeting of the House of Delegates. I would like to know if this is true.

THE SPEAKER: Can the Secretary inform us with regard to that matter?

THE SECRETARY: It was not. According to the By-Laws it is necessary. On the part of Detroit distinctly not; on the part of Flint no invitation has been received for this year, but the invitation was extended for last year with a full, complete set-up with blue-prints.

THE SPEAKER: On behalf of the City of Flint, the Chair distinctly remembers that at the meeting at which Flint lost out, Henry Cook extended the invitation for the next year. Am I correct, Dr. Cook?

DR. HENRY COOK: Yes.

THE SPEAKER: Are there any other invitations? If not, the invitations are closed.

DR. L. J. HIRSCHMAN (Detroit): If Detroit is disqualified by not having the invitation in in time, I move you, sir, that the nominations be closed and the unanimous ballot be cast for the City of Flint for 1936.

THE SPEAKER: Page 7: "The Society shall hold an annual meeting at such time and place and of such duration as the House of Delegates and the Council may determine. This power may be delegated to the Council. Any county society desiring the annual meeting shall file an application with the Council sixty days prior to an annual session."

THE SECRETARY: To an annual session. They still have ten months to do it in, if it is left to the Council.

THE SPEAKER: The Chair will rule that both Detroit and Flint are qualified to extend an invitation. Prepare the ballots.

DR. PHILIP RILEY (Jackson): I move we take a standing vote on it.

The motion was seconded and carried unanimously.

THE SPEAKER: In the order in which the invitations were extended, those in favor of accepting Flint's invitation arise and the Secretary will count. The Secretary reports 30 votes for Flint. Those in favor of Detroit arise. The Secretary reports 36 ballots in favor of Detroit. The Chair declares Detroit selected by the House of Delegates as the place of the next annual meeting.

The next order of business is the election of a Speaker of the House of Delegates. Nominations are in order.

DR. E. D. SPAULDING (Wayne): I want to place in nomination a man as Speaker of the House of Delegates. The Wayne delegation would like to make one word of explanation. The man who has served so splendidly for the last two years feels that he no longer can consider renomination for this office. We are very loath to dispense with the services of Dr. Luce, but it is his distinct wish that his name not be placed before you.

With this word of explanation I would like to nominate the present Vice Speaker, who has efficiently served in this office, Dr. Frank H. Reeder, of Flint.

DR. ALFRED LABINE (Houghton): I wish to second the nomination.

DR. A. G. SHEETS (Eaton): I move the nominations be closed.

The motion was seconded by Dr. John Wessinger, Washtenaw, and carried.

DR. F. T. ANDREWS (Kalamazoo): I move that the Secretary be instructed to cast the unanimous vote of this House for Dr. Reeder as Speaker.

The motion was seconded and carried.

THE SECRETARY: The Secretary does so cast.

THE SPEAKER: The Speaker now declares Dr. Frank Reeder duly, officially and properly elected Speaker of the House of Delegates.

THE VICE SPEAKER: Mr. Speaker, I regret very much, indeed, at this time to feel that probably this is my last time to address you as such. I regret to see your present Speaker go. Realizing the arduous duties confronting the Speaker of this organization, I feel it is quite a chore for anybody to step into the big shoes of this little man who is about to retire. However, with your patience and your indulgence and with what I hope will be a continuation of his tutoring of me and that he will not leave me, I am frank to say that I shall endeavor to give every bit of effort and energy that I possess to keep the good work of Dr. Luce going.

I thank you for this honor that you have given me today. (Applause.)

THE SPEAKER: The next order of business is the election of a Vice Speaker.

DR. ROY H. HOLMES (Muskegon): Mr. Speaker, I would like to nominate a man who is always alert, who has shown a very splendid knowledge of parliamentary routine, who has been able to help lead this Society in its many activities. That man is Dr. Riley of Jackson.

DR. F. T. ANDREWS (Kalamazoo): I move the nominations be closed.

THE SPEAKER: If there are no further nominations the Chair declares the nominations closed.

DR. F. J. O'DONNELL (Alpena): I move that the Secretary cast the unanimous ballot for Dr. Riley as Vice Speaker.

The motion was seconded and carried.

THE SECRETARY: The Secretary does so cast.

THE SPEAKER: I now declare this stranger in our midst, Phil Riley, elected Vice Speaker of the House of Delegates.

At this point it might not be amiss for the Speaker, personally, to express to the House of Delegates his appreciation of your courtesy to him in all his rulings, your tolerance of his somewhat dictatorial manner, and an expression from me of my appreciation of that is in order and I wish to make it now. (Applause.)

Under unfinished business, is there anything further? In order to introduce new business it must require the consent of the House.

DR. ROY H. HOLMES (Muskegon): You ruled a short time ago that this proposal could be entertained under unfinished business.

THE SPEAKER: If it is unfinished business. If it is new business I prefer that you get the consent of the House.

DR. ROY H. HOLMES: May I tell the House what it is, so you can rule upon it?

THE SPEAKER: Yes.

DR. HOLMES: I would first like to make a motion to clear up the confusion caused by this amendment that was proposed to the Constitution and By-Laws whereby we do not have to wait a year to have an executive secretary appointed, and also to amend the proposed revision of the Constitution and By-Laws so it can be presented next year for action by the Society. If there is any doubt I would prefer to have the consent of the House.

THE SPEAKER: What is your opinion on that, Mr. Secretary?

DR. L. J. HIRSCHMAN (Wayne): Part of what the doctor is presenting is unfinished business and part is new business. Any proposed amendment to the Constitution is evidently new business and can be introduced with the consent of the House. Under the heading of instructions to the Council from this body, having instructed the Council at various times as to our wishes, further instruction I would think, you could rule as still unfinished business.

THE SPEAKER: Will you divide your proposition into two sections? Your amendment comes under new business; the other part of giving instructions is a continuation of unfinished business.

DR. HOLMES: Mr. Speaker, I would like to object to that in a certain way. Is it clearly illegal to present an amendment to the Constitution at any meeting of the House of Delegates which must be carried over a year? It seems to me that if it is it is purely theoretical and not practical.

DR. W. L. VAN DUZEN (Wayne): I believe we could get at this very quickly by a motion. I therefore move that Dr. Holmes be given the permission of the House to present this business regardless of whether it is new business or unfinished business.

THE SPEAKER: The Chair will rule in conformity with Dr. Hirschman's recommendations. Dr. Holmes, you may now present your unfinished business.

DR. HOLMES: The unfinished business is a motion that the Council be instructed to employ an executive secretary, not necessarily a physician or a member of the Michigan State Medical Society, who shall act as an assistant secretary and perform such duties as are assigned to him by the Council and the Secretary of the State Medical Society. I would ask to include in that the thought in the amendment that was proposed, that it be recommended to the Council that they consider the thought of the amendment proposed originally.

DR. E. D. SPALDING (Wayne): It seems to me that we are making a rather unnecessarily complicated situation on something that we are all earnestly desirous of accomplishing. Here are obligations in the By-Laws which, although there are some technical modifications that should be made, in a sense represent the wishes of this organization, I fully believe. If the constitutionality of this thing can be gotten around, if necessary, in this way, it is a perfectly proper thing that an executive secretary should be appointed to act under the secretary. The secretary is responsible for the office in just the same way as an attorney would represent the executor of an estate and still not be the executor. Therefore, it is perfectly proper that a modification of the By-Laws should be carried out to this effect without going counter to the expressed statements in the Constitution. In other words, this man is not a new officer; he merely is a part of the machinery for the secretary to carry out his office as provided for in the Constitution.

I propose, sir, that in discussing the motion before the House, an amendment to the motion be made so that these proposed new sections, Sections 4 and 5 of the By-Laws, may be voted into the By-Laws with this understanding, that they are a part of the machinery, and amend the By-Laws, not in any sense in contradistinction to the statements in the Constitution.

THE SPEAKER: You cannot amend the By-Laws today because it requires to lay over one session. This particular wording that you are putting in was not introduced yesterday.

DR. E. D. SPALDING (Wayne): If technicalities are in order, sir, this is a continued meeting and we

can recess for five minutes and reconvene, if that is necessary.

DR. FREDERICK A. BAKER: Article 8 says that the general officers of this Society shall be a President, a President-Elect, a Treasurer, a Secretary, an Editor, and so forth. Would it be possible under the present set-up simply to have the Secretary hire whatever help he needs to run his office, hire an assistant as he hires other workers? Would it not be possible to avoid all this difficulty by simply hiring someone to help him in his office as secretary under his direction, but anticipating the proposed amendment to make another thing possible next year?

DR. L. J. HIRSCHMAN (Wayne): I think we are not getting anywhere at all; we are mixing up amendments to the Constitution and instructions to the Council. We are under unfinished business. We have naught to do with amendments at the present time. All that Dr. Holmes is trying to do is to get across a motion to instruct the Council to appoint an Executive Secretary whose duties shall comprise those duties which were in the proposed amendment. This has nothing to do with the amendments. That simply lists some of the duties. He didn't mean to use the word "amendment" at this time because we can't talk about amendments. That is my understanding of Dr. Holmes' motion. That was the motion that I expected to make and Dr. Holmes and I got together on it. In other words, we want to instruct the Council to do this now, to appoint an Executive Secretary, and do the things which we can't amend the Constitution to do now. Then Dr. Holmes under new business will introduce an amendment which will lay on the table for a year, and next year it becomes constitutional. In the meantime this is just part of the machinery of our Society and we get the Executive Secretary started on his job right now. (Applause)

THE SPEAKER: With that in view, Dr. Holmes, read your motion of instruction to the Council.

The motion was seconded by Dr. Basil L. Connelly, Wayne.

DR. L. J. HIRSCHMAN (Wayne): I offer an amendment to put the word "immediately" in there at the proper place. This is a mandate to the Council to immediately appoint an Executive Secretary.

DR. HENRY COOK: There is one clause that should be clarified. That is that he shall be employed by the Council and his salary fixed by the Council subject to the approval of the House of Delegates. His salary cannot be legal until it is approved at a future meeting of the House of Delegates, and it should be made legal according to the Constitution. I think that should be understood.

DR. ROY H. HOLMES (Muskegon): I accept that suggestion by Dr. Hirschman to insert the word "immediately."

I am sorry to talk so much, but I considered what Dr. Cook said at the time, and I have perfect confidence that the Council will arrange salaries sufficient and yet not exorbitant for such service.

DR. T. K. GRUBER (Wayne): I would like to ask if this motion involves all these things that are written down here.

DR. HOLMES: They are just suggestions.

THE SPEAKER: Those in favor of the motion say "aye," those opposed say "no." The "ayes" have it; the motion is carried.

Is there any more unfinished business?

DR. DEAN W. MYERS (Washtenaw): Is this the time to introduce nominations for emeritus membership?

THE SPEAKER: It is.

DR. MYERS: Then I wish to present the following communication:



## WASHTENAW COUNTY MEDICAL SOCIETY

September 23, 1935

To the House of Delegates of the  
Michigan State Medical Society  
In Session  
Saulte Ste Marie, Michigan  
Gentlemen:

The Washtenaw County Medical Society has the honor to recommend for Emeritus Membership in the Michigan State Medical Society, Doctor John A. Wessinger, of Ann Arbor, Michigan. In support of this recommendation, the Society desires to present the following facts.

John A. Wessinger was born in Howell, Michigan, August 6, 1860, and was graduated from the Howell High School, and then attended and graduated from the Detroit College of Medicine, class of 1882. He practiced medicine at Howell, Michigan, eight years and then removed to Ann Arbor, where he has continued the practice of his chosen profession for the past forty-five years. He has filled the position of Health Officer for the city of Ann Arbor for thirty years, continuously since 1905. He has been a member of the Michigan State Medical Society since 1884, a period of fifty-one years. During these years he has served the Society in many capacities among which are Committee services, Delegate Alternate to the American Medical Association, and Membership in the House of Delegates of this Society for many years.

During the period of his services as Health Officer of Ann Arbor, he has initiated and developed important reforms in Public Health. Through these long years of activity, he has always been progressive in his efforts to give Ann Arbor an efficient and scientific Health Department. His success in this regard has been outstanding and he is now recognized as one of the leading Health Officers of the Commonwealth of Michigan.

He has filled all the requirements for Emeritus Membership. He has rendered service to the Society, to the County of Washtenaw and to the City of Ann Arbor with steadfastness and distinction. The Washtenaw County Medical Society considers itself honored in presenting his name at this time for such membership.

O. R. YODER, *President*  
JOHN V. FOPEANO, *Secretary*  
H. H. CUMMINGS, *Councilor*.

Mr. Chairman:

As a member of the House of Delegates from Washtenaw County, I feel myself honored in having the privilege of presenting this recommendation and I move its adoption and the election of Dr. Wessinger to Emeritus Membership.

DEAN W. MYERS, *Delegate*  
Concurred in by  
JOHN SUNDEWALL, *Delegate*.

The nomination and motion for election of Dr. Wessinger to emeritus membership was seconded by several members and carried.

DR. F. T. ANDREWS (Kalamazoo): I wish to present two names for emeritus membership, first the application of Dr. Alvin H. Rockwell:

## APPLICATION FOR MEMBER EMERITUS

Dr. Alvin H. Rockwell was in active practice fifty years. He was born in 1851. Graduated in medicine from the University of Michigan 1883, following which he practiced at Alba, Antrim County. A few months later he moved to Mancelona where he practiced until 1889. In 1889 he moved to Kalamazoo continuing the general practice of Medicine. He gradually became interested in public health work and in 1918 was appointed full time Director of the Kalamazoo Health Department, which post he held until his retirement in 1933 at the age of eighty-two.

He has held the offices of President of his local Society in 1918, and was Councilor of the 4th district from 1911 to 1918, inclusive.

Dr. Rockwell was an active member of the Kalamazoo Academy of Medicine from 1889 until 1933—forty-four years.

Mr. Speaker, I move the adoption of this application of Dr. Allen H. Rockwell for Member Emeritus.

The motion was supported by several Delegates and carried.

DR. F. T. ANDREWS (Kalamazoo): I have the application for Member Emeritus of Dr. Edward Ames:

## APPLICATION FOR MEMBER EMERITUS

Dr. Edward Ames has been engaged in the active practice of medicine for sixty years. He was born in 1851, graduated from the Yale medical school in 1874.

Following his graduation he practiced for several years in western New York. He was licensed to practice in Michigan in 1892 and since that time has been engaged in general practice in Kalamazoo.

He has been an active member of his county medical society for forty-two years.

I would move that this application of Dr. Edward Ames be considered favorably for Member Emeritus.

The motion was seconded by several Delegates and carried.

THE SPEAKER: Is there any more unfinished business? Has the Council any unfinished business? Has any officer of the Society or any member of the House any unfinished business?

Under the heading of new business or business requiring a year's time, Dr. Holmes of Muskegon.

DR. ROY H. HOLMES: Mr. Speaker, I wish to offer the following amendment to the Constitution and By-Laws of the Michigan State Medical Society: Section 2 of Article 8, where it says "The Secretary, the Editor, et cetera, shall be elected by the Council," amend that that the Secretary shall be elected by the House of Delegates, the Editor and Treasurer being elected as previously.

Section 3 of Article 9 to read: "The invested funds of the Society shall be delivered to the Treasurer by the Vice-Secretary."

Section 4, Article 9, shall be made to read: "The Vice-Secretary" instead of "The Secretary." Where it says that the Secretary shall collect all annual dues, et cetera, it shall be "The Vice-Secretary shall collect all annual dues and all moneys owing to the Society, depositing them in an approved depository and disbursed by him upon order of the Council. The Council shall cause an annual audit to be made of the funds of the Society by certified public accountants, and shall require the Treasurer and Vice-Secretary to be bonded for \$25,000."

By-Laws, Chapter 4, Section 4.

THE SPEAKER: It isn't necessary, Doctor, to introduce this with reference to a change in the By-Laws. It is only a change in the Constitution.

DR. HOLMES: What I want to do is to present it as I have it worked out, because it is an integral affair.

THE SPEAKER: Present it as a part of the discussion and preface it by this portion of the Constitution: "It is desired for change by reason of," et cetera.

DR. HOLMES: Very well. This is in accordance with the Speaker's wishes. This is presented because of the following changes proposed in the By-Laws of the Michigan State Medical Society. Proposed new Section 4 of Chapter 4:

The Secretary shall be an active member of the Michigan State Medical Society and shall be a member of the Executive Committee of the Council ex-officio at a salary of \$2,400 per annum. The Vice Secretary, not necessarily a physician or member of the Michigan State Medical Society, shall be the custodian of all the records of the Society, shall conduct all the official correspondence of the Society under the direction of the House of Delegates, the Council, the Officers, and the Committees of the Society. He shall be elected by the Council and shall be remunerated by a salary, the amount of which shall be fixed by the Council and approved by the House of Delegates. He shall be the recording officer of the House of Delegates, the Council, Scientific Assembly and General Meeting. He shall also discharge the following duties:

1. Collect all the annual membership dues and such other moneys as may be due to the Society, keep membership records and issue membership certificates.

2. He shall make all required reports to the American Medical Association under the direction of the Secretary.

3. He shall deposit all funds received in an approved depository and disburse them upon order of the Council. The Council shall cause an annual audit of his accounts by a certified public accountant. He shall render a report to the Council reviewing the Society's activities and imparting recommendations for the advancement of the Society's interests at each meeting of the Council.

4. He shall perform such other duties as the Council shall direct. Under the direction of the Council he shall be the Business Manager of the Journal. I just want to explain that it was written here originally, "Performing all duties concerned with the issuance of that publication," which caused Dr. Gorsline a bit of concern. I think if that is made to read as I have it, "performing all such duties,"

- there won't be any confusion about his doing anything but business managing of the Journal.
- 5. He shall superintend all arrangements for the holding of all meetings in compliance with the Constitution and By-laws and the instructions of the Council.
  - 6. He shall send out all official notices of meetings, committee appointments, certificates of election to office and special duties of committees.
  - 7. He shall receive and transmit to the House of Delegates and to the Council all committee and officers' annual reports.
  - 8. He shall perform such other secretarial duties assigned to him by the Secretary or the Council.
  - 9. He shall institute and correlate all new activities under the supervision of the Council, and shall work on the program of a state organization of professions interested in health, on county society integration, and on continuous information to the public concerning health matters as directed by the President and the Council.

THE SPEAKER: No action is necessary on this.

DR. HENRY R. CARSTENS: Can the report be discussed?

THE SPEAKER: There is no action necessary on this at all. You cannot take any action.

Is there any further new business?

DR. L. J. HIRSCHMAN (Wayne): I ask the unanimous consent to introduce the following resolution:

RESOLVED, That the House of Delegates of the Michigan State Medical Society, assembled in Sault Ste. Marie this twenty-fourth day of September, 1935, extend to the citizens of the Soo, to all public officially, to the medical profession and their wives, and to the press, our heartfelt thanks for their constant efforts and hospitality shown us during this meeting.

The resolution was unanimously adopted.

DR. W. C. ELLET (Berrien): Will you yield the Chair to the Vice Speaker? I would like to offer a resolution of thanks and appreciation for the efficiency and justice that Dr. Luce has administered to this House while he has held office as Speaker. (Applause.)

THE VICE SPEAKER: Gentlemen, you have heard the motion. It is supported. Those in favor will say "aye," those opposed, "no." Mr. Speaker, it is unanimously carried.

DR. I. W. GREENE (Shiawassee): We have another man who has retired from active service in the Michigan State Medical Society, who labored long and arduously in our behalf. That is the Chairman of the Council and also the Secretary during the last year. I move that we express our appreciation and extend a vote of thanks to Dr. Burton Corbus for his long service and efforts in our behalf.

The motion was seconded by several Delegates.

THE SPEAKER: It is moved and supported that the thanks of this Society in grateful appreciation for his arduous labors be extended to Dr. Corbus.

DR. L. G. CHRISTIAN (Ingham): I would like to amend that that we give him a rising vote of thanks. (Applause.)

THE SPEAKER: And that it be manifested by a rising vote.

The motion was unanimously carried by a rising vote.

DR. F. T. ANDREWS (Kalamazoo): I move we adjourn.

The motion was seconded and carried and the meeting adjourned at 5:30 p. m.

Registration

Upper Peninsula Members.....	52
Lower Peninsula Members.....	254
Auxiliary Members.....	60
Guests—Includes speakers, CCC doctors and Canadian doctors.....	50
Exhibitors .....	28
Total .....	444



# THE JOURNAL

## OF THE

### *Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOL. 34

DECEMBER, 1935

No. 12

#### THE STATUS OF THE ESSENTIAL HYPERTENSION PROBLEM\*

S. MARX WHITE, B.S., M.D., F.A.C.P.†  
MINNEAPOLIS, MINNESOTA

For nearly a century following Bright's classic work in 1827, the close similarity between the renal glomerular changes in chronic glomerulonephritis and in the late stages of essential hypertension has been a source of confusion and misguidance so far as the fundamental etiology of the latter condition is concerned.

The search for the causes of increase in pressure within the arteries in these two, and in other conditions has led into many fields, such as exogenous and endogenous toxins, endocrine and metabolic disturbances, and finally into the physiology of the mechanisms governing pressure within the arterio-vascular system.

The search for chemical substances, including hormones, causing increase in arterial pressure, has been continuous and intensive, stimulated by the occurrence of arterial hypertension in such diverse conditions as lead poisoning, gluttony, the toxemia of pregnancy, glomerulonephritis, and in certain cases of gout, diabetes, obesity and pituitary and adrenal tumor.

In certain of the conditions toxins no doubt play a rôle in causing elevation of pressure, but outside of this group is a much larger group in which such factors do not play a primary causative rôle and in which hypertension exists long before any other demonstrable change. This is the group under consideration, and it is certain that most, if not all, of the cases developing hypertension in the endocrine and metabolic groups of disorders are examples of its development in individuals so predisposed by inheritance or otherwise, a small proportion of the cases with certain adrenal tumors providing an exception.

Aschoff,<sup>3</sup> in 1933, has summarized his views and definition of the functional, degenerative and dystrophic diseases of the vascular system. In contradistinction to arteriosclerosis, the well-known decrescent condition of advancing years, arteriolosclerosis affects the precapillary arterioles with hyaline and lipid imbibition in the vascular walls, which swell up to such a degree that the lumen of the arteriole may be completely occluded. In the incipient prearteriolosclerotic state the arterioles may be still quite free from actual disease. Aschoff considers it fairly certain that the origin of this condition is in a functional stimulation of the vascular system which manifests itself by hypertonia, and states, "If it is at all justifiable to advance an opinion at this time, it would seem that the hypertonia should be regarded as the cause of arteriolosclerosis of these vessels. In what particular way the latter is caused is a matter for special investigation." It is necessary, however, to consider arteriosclerosis and its variant arteriolosclerosis together not only because of the frequent association of the two but because their pathologic processes are so simi-

\*The Andrew P. Biddle Oration at the Annual Meeting of the Michigan State Medical Society, Sault Ste. Marie, Michigan, September 25, 1935.

†For professional note see page 793.

lar. He considers arteriosclerosis and arteriolosclerosis as parallel affections, the distinguishing feature of the latter being its localization in the terminal vascular regions. Volhard,<sup>34</sup> a distinguished student of renal and vascular disorders, makes an interesting distinction between what he calls "pale hypertension" and "red hypertension." In the first group the patients are pale, and he believes this must be caused by the contraction of all vessels. This group comprises nephritic patients with the tendency to develop angiospastic retinitis. This can arise through a chemical humoral mechanism only, it being difficult to imagine that a hypertensive condition in which the arteries of the brain and the retina are constricted can be brought about by a nervous mechanism. Pale hypertension occurs also in forms of chronic hypertensive disease leading to deterioration of kidney function. This is the so-called malignant hypertension, in which a two-fold relationship probably exists, the vaso-constrictive substance or substances being the product of a diseased kidney and also a toxicant to the kidney, leading to renal insufficiency through lasting circulatory disturbances. Volhard believes that red hypertension is not, as he earlier believed, of renal origin. It is prominently a disease of old age, seldom occurs before 30, rarely before 40, frequently between 40 and 50 and most commonly between 50 and 70 years of age. He now inclines to the belief that heredity, besides age, plays an important rôle and he is inclined to credit the existence of a hypertensive constitution instead of the usual assumption of an abnormal excitability of the vascular system manifested perhaps through an early vaso-neurosis, but states, "It is, however, possible that the wear and tear of a normal vascular system becomes accelerated through an inherited vaso-lability, expressing itself by abnormally strong and frequent blood pressure fluctuations of nervous origin."

The study of a hereditary factor in essential hypertension presents peculiar difficulties and sources of uncertainty. The first of these is that in much of the literature arteriosclerosis and arteriolosclerosis, that form of vascular disease associated specifically with hypertension, cannot be clearly differentiated. If it can be proved that the heredity runs not primarily to the structural change but to the affective phenomenon of

an unusual degree of blood pressure (pressor) response, this confusion can be replaced by some approach to clarity. The difficulties and uncertainties of determining in successive generations the facts concerning a disorder so slow in its evolution and often late in its manifestations are great, and to a large degree insuperable if we demand all the postulates of modern genetics. However, Lenz<sup>5</sup> states that a knowledge concerning descendents is no less valuable than knowledge concerning ancestors, and information about collateral relatives is equally useful. Thus, by determining blood pressure in the living, the principle of study of the collateral relation of the given patient, *i.e.*, sibs, cousins and survivors in preceding and succeeding generations, can be used rather than the usual information on ancestors and remote generations. In man, knowledge of the color of eyes or of the form of a nose or chin may be traced as in portraits for many generations, and the facts concerning bodily conformation, habitus and stature are often preserved in history. When it comes to knowledge of disease in ancestors the doctor's notebook, if it ever existed, is too personal a record for preservation and autopsies too infrequent. Thus it is that ancestral data on disease in man is limited and cannot be used over several generations as in genetics in short-lived animals. The heterogeneous factors in human inheritance will always remain.

The first painstaking and extensive study of the relation of heredity in essential hypertension was that by Weitz,<sup>36</sup> who not only used the method of studying ancestors, which has notorious uncertainty, but also studied the living relatives of the patient and of controls in a sufficient number to show that the proportion of affected to non-affected sibs in families of hypertensive patients approximated the ratio of 1:1, which would be expected if inheritance of the characteristic was dominant in the Mendelian sense. Dominant inheritance of the predisposition to hypertension seemed to him, in the majority of cases, to be certain.

In 1924, a year after Weitz's paper, O'Hare, Walker and Vickers<sup>30</sup> published the first extensive study of heredity in essential hypertension in this country. Their study involved 300 unselected cases of permanent hypertension and a control series of 426 consecutive cases of non-vascular disease, and showed that a family history of heart,



kidney, cerebral disease, etc., was almost twice as common in the patients with essential hypertension as in patients who had no increase in blood pressure.

In a recent study Ayman<sup>4</sup> made a direct study of the blood pressure, height and weight of 1,524 members of 277 families. In the families whose parents had absolutely normal blood pressure the incidence of elevated blood pressure was only 3.1 per cent. In the families in which one parent had arteriolar hypertension the incidence of elevated readings in the children rose to 28.3 per cent; and in the families in which both parents had arteriolar hypertension the incidence of elevated readings in the children reached the striking level of 45.5 per cent. Of 70 brothers and sisters of parents with normal pressure, 37.8 per cent had elevated blood pressure readings, whereas of 86 brothers and sisters of parents with arteriolar hypertension, 65.3 per cent had elevated blood pressure readings. Ayman concludes that these results are strong evidence for the existence of a hereditary factor in arteriolar (essential) hypertension.

Several studies in identical twins seem to show that blood pressure is strongly conditioned by genotypic factors. Recent knowledge makes it clear that these factors involve the vegetative nervous system.

Weitz<sup>37</sup> and Nador-Nikitits<sup>29</sup> describe essential hypertension in identical twins. Von Verschuer,<sup>33</sup> and also Curtius and Korkhaus<sup>14</sup> have made blood pressure determinations in many identical and fraternal pairs of twins. In both studies the differences in blood pressure between identical twins was significantly less than between the pairs in fraternal twins. Curtius and Korkhaus in their material studied also certain responses mediated by the autonomic nervous system, such as respiratory arrhythmia, pulse frequency, reaction to adrenalin and to water drinking tests. They found a great similarity in responses in identical twins and marked differences between responses in fraternal twins.

Williams<sup>39</sup> does not see hereditary factors clearly demonstrated, and Moschcowitz,<sup>28</sup> while agreeing that there are families in which hypertensive states seem hereditary, believes that the influences can be more directly traced to environment than to heredity.

While realizing the difficulties of studies of heredity in man, it must be said that

since Weitz's paper in 1928, there has been an impressive accumulation of evidence in favor of the hereditary predisposition to essential hypertension. The physician, meeting as he does many families in which for two and sometimes three generations, he finds essential hypertension prevalent, in contrast to hypertension-free families, cannot escape the belief that heredity plays a definite part in this condition.

The concept that in hypertension the vasomotor centers may be hyperirritable was first advanced by von Monakow<sup>27</sup> in 1920. He states that hypertension can occur on a nervous basis, possibly through changes in the field of the internal secretions, or they may be conditioned by toxins, the phenomena of blood pressure rise occurring in the field of the sympathetic and originating in the hormones.

Fulton<sup>17</sup> states that the control exerted by the central nervous system upon metabolic and other vegetative processes of the body was predicted by Claude Bernard. The maintenance and control of blood pressure within the arterio-vascular system is one of the vegetative processes. The fact that blood pressure may rise during conditions of emotion was first described by Hill<sup>20</sup> in 1898. Many physiologists working on lower animals have thrown much light upon the activities of the various mechanisms in what we now call the autonomic nervous system, regulating certain bodily activities. Karplus and Kreidl<sup>23</sup> in 1911 had observed that direct stimulation of the hypothalamus caused marked rise of blood pressure and dilatation of the pupils. Cannon<sup>7</sup> published the first systematic study of the physiologic responses in the body, the affective responses in states of mental excitement, fear and rage. He showed that certain emotional states are accompanied by processes in the autonomic nervous system, among which are increased activity of the sympathetic division, causing an increased outpouring of adrenin into the blood, leading to a dramatic series of bodily adjustments which drive the blood out of the vegetative organs of the interior serving the routine needs of the body into the heart, the lungs, the brain, as well as into the skeletal muscles. With this adjustment there is a rise of blood pressure in the peripheral circulation, an increase in red blood cells, a rise of blood sugar, a diminution in coagulation time and other changes, all of an order necessary in preparation of the body for

combat or escape. The high blood pressure developed in excitement and pain would be certainly serviceable in the muscular activity likely to accompany these motivating forces.

Cannon and his co-workers<sup>8,9,10,11,12</sup> have discovered a substance secreted at the endings of the sympathetic nerves to which they give the name sympathin. The physiological function of this sympathin is to distribute the autonomic impulses through smooth muscles. It resembles adrenin in that it is given off into the blood stream, acts like adrenin, and coöperates with adrenin in mimicking sympathetic nerve impulses.

This briefest of excursions into physiologic literature is not made as a thesis directly connecting adrenin and sympathin with essential hypertension, but is made in order to call attention to the complex character of the very significant changes which occur in the body in response to emotional states. Among these responses, increase in blood pressure plays a significant part. We are dealing here with animal experimentation and the physiologists have had an almost unlimited field for study. Blood pressure has received, if anything, less than the usual amount of attention, especially as compared to chemical and hormonal study. Prolonged hypertension under natural conditions in animals is not known. A study of the emotional life of the ape, the cow, the rabbit and the duck would, therefore, not lead to any information concerning its relationship to this disorder, which appears to be the exclusive prerogative of man. We may, therefore, pardon the animal physiologists for their somewhat casual attention to this affective phenomenon of such great significance to us.

While permanent chronic hypertension is not known under natural conditions in animals, discovery of the possibility of its experimental production by section of the aortic nerves\* and carotid sinus nerves<sup>24</sup> affords a method which greatly illuminates the study of the mechanisms of control of blood pressure.

Any attempt in this paper to consider the pathways and centers of autonomic vegetative and reflex control of blood pressure is unnecessary. To those interested, several recent contributions are especially recommended. Fulton<sup>18</sup> views new horizons in physiology and medicine, the hypothalamus and visceral mechanisms. Hering<sup>19</sup> devotes

a short monograph to the blood pressure-curbing-tonus (*Blutdruckzüglertonus*) in its significance for parasympathetic tonus and sympathetic tonus, and Koch<sup>25</sup> a monograph to the reflex self-regulation (*reflektorische Selbststeuerung*) of the circulation. McDowell<sup>26</sup> reviews the subject of the nervous control of the blood vessels. James C. White<sup>38</sup> devotes a monograph to the surgical aspects of the autonomic nervous system. Surgery has passed the outposts of this terrain and promises to explore in man a territory hitherto possessed only by physiology in the experimental animal. In this connection one is reminded of the service by surgery in increasing our knowledge of the physiology and pathology of the gastrointestinal tract.

Recently Hines and Brown,<sup>21</sup> utilizing a standardized cold stimulation test and studying the blood pressure response, have laid a foundation on which it will be possible to accumulate data as to the reactivity of the pressor mechanism in large numbers of individuals. They conclude that at least 98 per cent of all subjects with hypertension of the essential form exhibit excessive reactions to local cold. They state, "There is impressive evidence to indicate that certain subjects have a constitutional or biologic abnormality which leads to the development of essential hypertension. Demonstration of this potentiality should be possible theoretically years before the onset of the clinical degree of high blood pressure. Subjects can be grouped as those with minimal and those with excessive responses of the systemic blood pressure to sensory and psychic stimulation. There is some evidence that the so-called normal subject who exhibits this hyper-reactivity will eventually suffer from hypertension unless development of this condition is forestalled."

The character of the pressor response to local cold has been confirmed by others.<sup>6,15,31</sup>

In a further report<sup>22</sup> which the authors have kindly shown me, Hines and Brown have reported on 571 normal and hypertensive subjects, and amplify their original conclusions. They classify all subjects into (1) "normal reactors," (2) "normal hyper-reactors," and (3) "essential hypertension." Of especial interest is the fact that of the eight hyper-reactor normals they reported in 1932, three have developed at this time clinical degrees of essential hypertension with elevation of blood pressure and demonstra-

\*Formerly called the depressor nerves.



ble hypertensive changes in the retinal arterioles. They submit the conception that essential hypertension affects only subjects who are hyper-reactors and that an abnormality of essential hypertension is an excessive response in the blood pressure to intrinsic and extrinsic stimulation.

The importance of the point of view of the physician in dealing with the earliest manifestations of essential hypertension—excursions of arterial pressure beyond the usual or normal levels—becomes obvious when the subject of management is under consideration. The determination of the systolic and diastolic levels of these individuals at rest and in a state of physical and mental relaxation, the so-called basal level, is important, but there is a growing recognition of the need for determination in the individual of the level or levels to which the pressure may be made to rise. Many reports, and frequent experiences of my own, have shown that in certain persons while at rest the vasomotor apparatus may manifest remarkable increases brought about solely by conditions of attention or emotion on the part of the subject under examination. In a partially darkened room, recumbent and as serene as possible, the only varying condition being the activities of, and the subjects of conversation by, the examiner, variations of 30 to 40 mm. of mercury in systolic pressure can be brought about almost at will in subjects with an abnormally labile vasomotor apparatus. The diastolic pressure varies in general in the same direction as the systolic but to a less degree. Since the diastolic pressures rise, or at least do not fall, the mean pressure is elevated and the total work of the heart is increased. During a session of fifteen or twenty minutes, and often much less, the examiner, even though possessing little accurate information of the subject's personality and environment, can often cause rise and fall in the blood pressure at will by discussing well-chosen topics. One can play upon the emotions and through them upon the blood pressure to an astonishing degree. Comparison with a musical instrument is not inapt. Only adjustments of a physiologic character could be capable of such rapid and accurate responses. The limit of spread I have observed under the above conditions at a single sitting is 65 mm. systolic and 25 to 30 mm. diastolic pressure in patients in the labile phase of hypertension. The normal sub-

ject under similar conditions can scarcely be made to vary more than 20 mm. systolic and 5 to 8, seldom 10, mm. diastolic. Instances recorded in the literature of these variations are too numerous to require reference.

The first instance of this extreme lability in my own experience has its parallel in innumerable published case histories, but as it was the first case to call the writer's personal attention to the phenomenon, it will bear a brief recital.

F. W., male, aged forty, was first seen in 1908. A graduate in medicine, bacteriologist and administrator of national and international fame, he had untiring initiative and energy and was developing the institution with which he was connected to a remarkable degree. His blood pressure on the first examination was 210/102. A few days later it registered only 175/96. No other departure from the normal was found. The urine, with a specific gravity of 1.026, showed no albumin or casts. No abnormalities were found in the urine during the first two years of my observation. For five years I was able to study the factors contributing to variations of his blood pressure during waking hours. I knew intimately his sources of anxiety and strain and of pleasure and relaxation. With him recumbent and comfortable, coöperative and interested in the study in a quiet, semi-darkened room, I could vary his systolic blood pressure as much as 55 mm. of mercury almost at will. If I talked about his specific interests, the resistance to his plans on the part of superior and inferior officials in his organization, I often got the high point of 210 systolic and 104 to 108 diastolic. Let my conversation and consequently his thoughts drift casually to blooded dogs, hunting, music and his other sources of recreation and relaxation, and I often secured readings between 165 and 175 mm. systolic. Leaving him lying alone in the room, while I went about some duties elsewhere, cautioning him to pay no attention to my re-entrance, I repeatedly found him relaxed, half asleep, with blood pressure as low as 155 systolic and 92 diastolic. The range of variation was 55 mm. systolic and 16 mm. diastolic, and this range was obtained at will by varying only the content of his mind and the consequent pressor responses. This lability of blood pressure was demonstrable during the five years to and including 1913, after which there were only occasional opportunities for study. During 1912 I was unable to get a systolic reading below 162, although the maximum systolic record had not increased above 210. Repeated urinalyses showed no lowering or fixation of specific gravity, and albumin and casts were absent as a rule. Beginning late in 1911, however, occasional specimens showed albumin or casts, one or the other alone or both together, always in minimal amounts. In 1913 he was offered a position with greater responsibility in another institution, and feeling as he did that new superiors in his own institution were not giving his plans the support they deserved, but wishing to remain in Minneapolis, he gave the new project serious consideration. During this period the range secured was from 216/110 to 176/102. The lability of pressure was lessened and albumin and casts were appearing in the urine with greater frequency and persistency. With a very few opportunities for study in 1915, pressures varying from 215/108 to 188/105 were secured. In September of 1918 a letter received from him while I was

in France said that he had been blind for six months from retinal hemorrhages and exudate and that his blood pressure was higher than any I had seen and did not drop as formerly. No figures were given. His condition was that of so-called malignant hypertension with stabile, instead of the formerly labile, pressures. His death followed within a month from the time he wrote the letter. This is not an isolated case. Its clinical features and sequences are common knowledge.

O'Hare, Mosenthal, Fishberg, Stieglitz and many others in this country have recorded great extremes of blood pressure in the labile phases of essential hypertension. It is not necessary to labor the point. These variations are expressions of vasomotor phenomena essentially or primarily normal in character, developed to an unusual and finally pathologic degree. Whether excessive pressures alone are capable of causing, after a sufficient interval, the characteristic arteriosclerosis and its organ damage so often found clinically and pathologically in the late stages of the malady, may be still a subject for speculation. Such a relationship would be natural. It is, however, a matter of common experience and is noted by nearly all writers that some individuals tolerate periodic and even more persistent increases of blood pressure without manifesting clinical or pathological evidences of arteriosclerosis. Many of the patients with so-called benign hypertension live out their expectancy and in a significant number of instances no evidence of arteriosclerosis can be found by histologic examination of the organs after death. A patient with benign hypertension must ultimately develop at least hypertrophy of the left ventricle of the heart, unless death from other causes intervenes.

The limit of time during which it is possible for a patient to sustain hypertension is not known. Individual variations are so great that a common denominator cannot be found. Opportunities on the part of a single physician to trace a given patient are too few. On one patient, however, I have personal knowledge covering a period of twenty-five years:

Mrs. H. was first seen in 1910 in her sixtieth year. Her blood pressure was 208 systolic and 100 diastolic. I was able on the first examination to get readings as low as 192/98. All other essential features of her examination were negative. There were sources of worry to her in finances and in the family life. However, she had a keen mind, a fine philosophy of life and great capacity for coöperation. Although there was less understanding on the part of emotional factors may play in this condition than there is now, attempts were made, and have

been continued in the family, to lessen her responsibility and sources of strain. Above all was her placid, though not fatalistic, acceptance of her condition. Repeated and accurate, though not frequent, observations have been made personally. The levels most commonly found have been between 160 and 180 systolic and 98 and 104 diastolic. During two stressful periods of great personal loss the maximum found at one time was 198/105, at another time 195/100. Between these two periods, which were several years apart, a maximum reading of 165/100 and a minimum reading of 145/96 were obtained. On several occasions attempts have been made to find evidences of the usual accompaniments of the hypertensive state. The last examination made in 1933, 23 years after the first observation, failed to show more than the evidences in the circulatory apparatus of a moderate grade of arteriosclerosis in the peripheral vessels and probably in the aorta, the latter attested by a systolic murmur of rough quality, heard from the aortic area to the suprasternal notch without any evidence of aortic stenosis. Ophthalmoscopic examination showed a little patchy irregularity in some of the retinal arteries, which were somewhat tortuous. Compression of a vein at an arteriovenous crossing could be found in only one place. No sign of retinal hemorrhage or exudate was found. The heart outline in the six-foot x-ray film was not demonstrably widened, and its contour was within the limits of normal, although it was recorded that the apex seemed a little more blunt and rounded than in the usual heart silhouette. The urine showed a trace of albumin, a very few small finely granular casts and some cylindroids, a condition to which a woman of eighty-three years is entitled. This patient is living, placid and serene, at eighty-five years.

The case above reported is an isolated observation and I have no other covering a period of time that approaches it. A few of ten and twelve years, however, are found.

Fahr,<sup>16</sup> writing on the hypertension heart in 1928, cited his cases best followed to that date, showing that persons may have well over 200 systolic pressure for ten to fifteen years before definite symptoms of heart failure develop. He cited four cases followed for fifteen, eleven, eight and ten years. Such cases, while they are the exception, are common enough to prove the relative benignity of hypertension in certain individuals. One gains the definite impression that in general the process is less rapidly progressive in the later decades of life. In these decades, however, other causes of death are likely to end life before the natural termination of the malady can develop.

What it is that conditions the development of the so-called malignant forms of hypertension is not known. Systematic observation of blood pressures in childhood and youth has not been in wide enough use or over enough years to determine whether or not the malignant forms of hypertension seen in adolescence or early adult life are commonly preceded by a labile phase tem-



porarily benign in its manifestations. This sequence is common in the cases in the later decades.

In the period of life when decrescent changes are under way we frequently see on the one hand benign types of hypertension with a protracted course, and on the other hand decrescent types of arteriosclerosis without hypertension. They can be shown to be separate and distinct entities. Allbutt<sup>2</sup> established this differentiation. It is generally agreed that arteriosclerosis *per se* is not a cause of hypertension but that on the other hand hypertension exaggerates and accelerates those parts at least of the decrescent process or processes due to stresses in the arterial wall. Increased intravascular pressure should and probably does cause pathological changes in that part of the arterial tree most concerned in its production, *i.e.*, in the arterioles. It is most probable that individuals with a poorer tissue endowment in their blood vessels would succumb earlier than others to these abnormal stresses. It is not unlikely that this group furnishes the majority, if not all, of the cases of arteriolosclerosis with malignant hypertension. This part of the problem, however, does not seem to be in process of solution.

Having been interested in the study, management and treatment of cardiovascular disease for 25 years or more, I have gained some very definite impressions as to therapeutic efficacy in essential hypertension. Several years ago I had tried and gradually given up the use of most of the drugs reputed to reduce blood pressure. I shared the impression formed and expressed by many others that this method, while it might produce temporary results in an occasional patient, was a false method and likely eventually to do more harm than good to the patient.

Weiss and Ellis,<sup>35</sup> in a study of the quantitative aspects and dynamics of the circulatory mechanism in arterial hypertension, bring out the point that unless cardiac output is known, the significance of a fall in blood pressure following therapeutic agents in hypertension may not be properly appreciated. Quantitative measurements of the circulation in these patients before and after treatment are necessary if harmful results are to be averted. Therapeutic procedures that lower the blood pressure through decreased cardiac output are harmful.

In 1925 Rowntree and Adson,<sup>32</sup> having

been impressed by the vaso-dilator effect following lumbar sympathetic neurectomy in cases of spastic paraplegia, reported the first bilateral sympathetic neurectomy in the treatment of malignant hypertension. Recently Craig and Brown<sup>13</sup> from the same clinic have published five cases, using a technic previously described by Craig. Adson and Brown<sup>1</sup> report results in these patients with another type of operation, the purpose of which was to denervate the adrenal gland and to destroy the outflow on the vasomotor nerves to all structures below the diaphragm. Various forms of surgical attack on the sympathico-adrenal system are being devised and attempted in man, with occasional unfortunate complications in the spinal cord in some and with complete paralysis of the abdominal muscles in certain forms of operation. These modes of surgical attack can be justified only if they can show radical and permanent reduction of the hypertension and protection against its ultimate consequences.

The chief interest of the writer in the therapy of essential hypertension centers in the functional or labile phase and in those individuals presumably on the borderline of normal, who exhibit excessive pressor responses to emotional stimuli. Since Hines and Brown<sup>21</sup> published their cold stimulation test, this simple, well-standardized and quite reliable test has made it possible to discover individuals who might not otherwise as readily reveal their pressor hyper-reactivity. The opportunity for study of pressor reactions to emotional states is not easily secured in individuals tested as normals. When their susceptibility in this regard is once discovered, they reveal emotional hyper-reactivity of the blood pressure as well. The writer has long been studying the blood pressure response to emotional states in hypertensive patients and has attempted management of the early labile phases of the disorder with the view of shortening the periods of higher pressure and lengthening and multiplying the periods of lower pressure by control. This is on a basis of definite opinion that there is a predisposition in these patients to excessive pressor responses, normal in mechanism but excessive in degree, and that the too-frequent recurrence of these excessive responses is the primary factor in producing higher and more fixed blood pressures along with cardiac hypertrophy and vascular

changes. Whether another factor, probably also inherited but with independent inheritance factors, conditioning the vascular system, particularly the arterioles, to a more pronounced or earlier-developing form of arteriosclerosis plays a part in the genesis of malignant hypertension, is unknown. If there were a hereditary predisposition which runs to primary organic change with hypertension secondary thereto, there would be little or no opportunity for effective therapy since we do not have adequate knowledge of metabolic, endocrine, humeral or chemical factors underlying these changes, and possess practically no direct control over them. Hereditary predisposition to the excessive pressor responses should, however, give opportunity for some degree of control of the frequency and character of the emotional stimuli and of the affective response. That the degree of control possible varies almost to infinity does not need elaboration. It is enough to say that too many of us cannot control ourselves, let alone our environment. The effort at control by the physician requires profound understanding, infinite patience and ability in teaching. The primary aim is to modify the environment of the patient insofar as it affects the pressor responses. There is as yet no evidence that we can control the degree or extent of these responses by rational methods other than by control of the stimuli causing them. This degree appears definitely to be inherent in the mechanism of each individual. The secondary aim is to diminish the periods of high pressure and increase the periods of low. The methods of satisfying these aims will undoubtedly vary with every medical advisor. The details will vary widely, but there are certain principles I have learned to follow and having followed them, I believe that definite results have been secured. In a very satisfactory proportion of patients effective management begins with the first interview and I have even at that early date, and maintain throughout, two purposes. The first of these is to show the patient that some drop in pressure can be secured by rest and relaxation. It is rare, indeed, at the beginning to get as good a drop in pressure as may be secured later when the patient has become acquainted with, and it is hoped has developed some confidence in, the physician. The second purpose is to acquaint the patient with the fact that with proper attention to his condi-

tion and his emotional responses the usual outlook is favorable. The stories passed about from mouth to mouth have usually given the patient a very distorted view. The recital of the condition of health and strength of one or more long-lived cases goes further in my experience toward establishing a favorable viewpoint than does a more theoretical discussion, even though it may be backed by profound knowledge of the subject. The patient is warned against family and neighborhood sources of medical information and is shown that the problems and course of some other patient whose disorder has the same name or who may have one of the same symptoms are in no sense his or her problems and course. This warning requires reiteration. I am sure that one of the most vicious effects of neighborhood medicine is to wreck very many well thought out and intelligently conceived medical programs which would otherwise be effective.

I am willing to discuss with some legally responsible relative the question as to whether a given patient should be given the facts about his blood pressure readings only when they are high, relatively fixed, and when in my opinion the patient has passed beyond the labile phase. I will confess at once that I have no facility in management if concealment or misrepresentation is necessary. In my experience a thorough knowledge of, and repeated experience in, the lowering of blood pressure to be secured by relaxation is a *sine qua non* of effective management. If the patient himself can realize that when he is relaxed and serene, his blood pressure is down, and that when he is hurried, worried and on tension, his pressure is up, then my explanation will have some weight. During examination the patient must not see the monometer for the attention and emotional response prevent the desired relaxation. I tell him that I will not give his readings until the observations are finished and why, but that when completed, I will give him the exact ones, which I do. I have thus at once secured his interest in a procedure novel to him. When the knowledge I possess is given to the patient freely, I have secured not only his confidence but also shown him something he did not know about blood pressure. Simple as it seems, the effect is usually profound, and I am accorded as much opportunity for control as the mentality of the given patient will



allow. Aye, there's the rub. Just as we are dealing with individual pressor responses in emotional states, we are dealing with individual capacities to receive impressions and to work out effective programs.

The physician cannot change a patient's environment. He can only suggest a change. The degree and character of change is dependent on the patient. A few principles may be stated here. Details would be superfluous.

The patient cannot successfully change the tempo and methods of his work. Each of us is geared to a certain pull and speed for the best results. The race horse is ill-adapted to traction or the percheron to speed. Hours of work may require modification. Work must be left in the workroom and not carried home. Advice to retire from occupation may be a two-edged sword, and when the patient returns to work under the ægis of a more skilful medical mentor, one edge may cut the doctor who advised it. Recreation requires study and knowledge by the physician as to its effects on the individual. Hours of rest and relaxation must be detailed and scrupulously observed. Relaxation for a short period after meals has a most salutary effect, both on the pressure and on digestion. Vacations and weekends may require prolongation. Whole Saturdays or Sundays in bed have helped many to reorganize their thoughts in preparation for lessening reactivity. Sleep has well-known depressor effects and the advantages of long hours of this remedy may need emphasis. Sedatives may have a distinct place at proper times in the given case. The care necessary in their use may require explanation. Individualization is the master word in this entire program.

In conclusion: It has long been recognized that in essential hypertension the patients in the early labile phases of the disorder are subject to variations in blood pressure, wider than those seen in individuals with normal pressures, and that the basal or resting pressure is set usually at a level higher than normal. There is as yet no adequate evidence that the degree of pressor reactivity to stimuli on the part of patients with essential hypertension, or of the individuals with normal or near-normal basal pressures but with hyper-normal pressor reactions, can be changed in any considerable degree by methods which do not have other, and often harmful, effects on the patient.

Disorders may develop in the circulatory system, sometimes early, but often after many years during which no evidences of structural changes can be found. Two distinctive evidences which show earliest and most often in the clinical case are hypertrophy and dilatation of the heart, particularly of the left ventricle, and changes seen by the ophthalmoscope in the small vessels of the retina. Whether biopsy with microscopic examination of the arterioles will add further useful evidence is not yet established.

The later stages of the malady with fixed blood pressures and with advanced changes in the arterioles together with damage to function and structure of organs do not yield satisfactorily to treatment. No methods are at hand by which the well-known changes in vessels, and through them in the heart, brain, kidneys or pancreas, can be reversed.

This is not to say that treatment in the more stable and advanced stages of the disorder is without benefit. Much is being accomplished even in severe cases. The fundamental structural changes may not be reversed, but the patient may be greatly aided and relieved, and life and usefulness prolonged. Management and treatment will allow readjustment of the circulatory apparatus, the development of cardiac compensation, and more or less repair of damaged organs. Some patients establish themselves at a lowered level of blood pressure and of working capacity and carry on for gratifying periods of time. Even in the malignant forms a favorable environment may slow the unfavorable progress. In all this the full armamentarium of the physician is called into use.

There is strong evidence that the exaggerated pressor responses and the occurrence of essential hypertension are hereditary characteristics, and further evidence that they can occur as responses, in individuals otherwise normal, to stimuli in the environment mediated through the nervous system. Whether chemical or humoral substances play a part in the mechanism of these responses is not yet known, and no accepted or adequately attested methods for control involving such substances or their antagonists are recognized. Blood pressures beyond those common to the average member of the race must accelerate the responses to overstrain and wear and tear in the cardiovascular system. In essential hy-

pertension the resulting changes reach their advanced stages as a rule in the later decades of life after reproduction has occurred and have not yet been shown to exhibit any tendency to disappear from the race.

The physician, concerned as he is with the problems of early recognition and management during the controllable phases, must recognize the necessity for finding these cases early, and of instituting such methods in management and treatment as will at least shorten the periods when the blood pressure is in the higher ranges in each individual and lengthen and multiply the periods when the pressure may be kept within the lower ranges. An opportunity is at hand for the physician to exercise a measure of control at a stage when that should be possible and can be shown to have definite effect. Tests now available make possible the discovery of individuals with hyper-reactive blood pressure responses during the early years of life, and this discovery should be utilized in the education and training of the affected child and youth when attempts at conditioning are most effective. Control of the emotional life in individuals susceptible to such control has an essential part in the effort to retard the development of structural and organic changes not now adequately controllable by hygienic and medical measures. Surgical interference cannot be essayed properly in the early phases but must be reserved for the late and otherwise uncontrollable stages, if found to be beneficial in any real and balanced sense of the word.

### References

- Adson, A. W., and Brown, G. E.: Malignant hypertension: report of a case treated by bilateral section of anterior spinal nerve roots from the sixth thoracic to the second lumbar, inclusive. *Jour. Am. Med. Assn.*, 103:1115, 1934.
- Allbutt, Clifford Sir: *Diseases of the arteries, including angina pectoris*. MacMillan Company, London, 1915.
- Aschoff, Ludwig: Introduction—18. *Arteriosclerosis*. The MacMillan Co., New York, 1933.
- Ayman, David: Heredity in arteriolar (essential) hypertension: A clinical study of the blood pressure of 1,524 members of 277 families. *Arch. Int. Med.*, 53: 792-802, (May) 1934.
- Baur, E., Fischer, E., and Lenz, F.: *Human heredity*. (Translated by Eden and Cedar Hall.) London, 1931.
- Briggs, J. F., and Oerting, Harry: Vasomotor response of normal and hypertensive individuals to standard stimulus (cold). *Minn. Med.*, 16:481, (July) 1933.
- Cannon, W. B.: *Bodily Changes in Pain, Hunger, Fear and Rage*. D. Appleton & Company, New York. 1st Ed., 1915; 2nd Ed., 1929.
- Cannon, W. B.: Recent studies on chemical mediation of nerve impulses. *Endocrinology*, 15:473, 1931.
- Cannon, W. B.: The functional organization of the involuntary nervous system and its humoral mediators. *Ann. of Int. Med.*, 6:1022, 1933.
- Cannon, W. B., and Bacq, Z. N.: Studies on the conditions of activity in endocrine glands. xxvi.: A hormone produced by sympathetic action on smooth muscle. *Am. Jour. Physiol.*, 96:392, 1931.
- Cannon, W. B., and Uridil, J. E.: Studies on the conditions of activity in endocrine glands. viii.: Some effects on the denervated heart on stimulating the nerves of the liver. lviii. *Am. Jour. Physiol.*, 58:353, 1921.
- Cannon, W. B., Lewis, J. T., and Britton, F. W.: Studies on the conditions of activity in endocrine glands. xvii.: A lasting preparation of the denervated heart for detecting internal secretions, with evidence for accessory accelerator fibers from the thoracic sympathetic chain. *Am. Jour. Physiol.*, 77:326, 1926.
- Craig, W. McK., and Brown, G. E.: Unilateral and bilateral resection of the major and minor splanchnic nerves; its effect in cases of essential hypertension. *Arch. Int. Med.*, 54:577, 1934.
- Curtius, F., and Korkhaus, G.: Zwillingsstudien. *Zeitschr. f. Konstitutionslehre*, 15:229, 1930.
- Dickman, W. J., and Michel, H. L.: Thermal study of vasomotor lability in pregnancy. *Arch. Int. Med.*, 55: 420, (March) 1935.
- Fahr, George: Hypertension heart. *Am. Jour. Med. Sc.*, 175:453, 1928.
- Fulton, J. F.: Canadian Med. Assn. Jour., 1932.
- Fulton, J. F.: New horizons in physiology and medicine: The hypothalamus and visceral mechanisms. *New Eng. Jour. Med.*, 207, 1932.
- Hering, H. E.: Der Blutdruckzüglertonus in seiner Bedeutung für den Parasympathikuston und Sympathicuston. George Thieme, Leipzig, 1932.
- Hill, L.: *Jour. Physiol.*, 22: Proc. 26, 1898.
- Hines, Edgar A. Jr., and Brown, George E.: A standard test for measuring the variability of blood pressure; its significance as an index of the prehypertensive state. *Annals of Int. Med.*, 7:209-217, 1933.
- Hines, E. A., and Brown, G. E.: Accepted by American Heart Journal. (In press.)
- Karplus, J. P., and Kreidl, A.: *Pfäuger's Arch.*, 143: 109-127, 1911.
- Koch, E., and Mies, H.: *Zeitsch. f. exper. Med.*, 62: 551, 1928. Also, *Krankh. forschung*, 7:241, 1929.
- Koch, Eb.: *Ergebnisse der Kreislaufforschung*, Band 1: Die reflektorische Selbststeuerung des Kreislaufes. Th. Steinkopff, Dresden, 1931.
- McDowall, R. J. S.: The nervous control of the blood vessels. *Physiological Reviews*, 15:98-174, (Jan.) 1935.
- Monakow, P. von: Blutdrucksteigerung und Niere. *Deutsch. Arch. f. klin. Med.*, 133:129-152, 1920.
- Moschcowitz, Eli: Cause of hypertension of the greater circulation. *Jour. Am. Med. Assn.*, 93:347, 1929.
- Nador-Nikitits, E. de: Sur l'étiologie de l'hypertension artérielle essentielle. *Arch. de Mal. du Cœur*, 18:582, 1925.
- O'Hare, J. E., Walker, W. G., and Vickers, M. C.: Heredity and hypertension. *Jour. Am. Med. Assn.*, 83:27, 1924.
- Randall, L. M., Murray, S. E., and Mussey, R. D.: The "cold test" in pregnancy; a preliminary report of its use in prenatal care. *Am. J. Obst. and Gynec.*, 29: 362, (March) 1935.
- Rowntree, L. G., and Adson, A. W.: Bilateral sympathetic neurectomy in the treatment of malignant hypertension: report of a case. *Jour. Am. Med. Assn.*, 85: 959-961, 1925.
- Verschuer, Otmav von: Studien an 102 eineiigen und 45 gleichgeschlechtlichen zweieiigen Zwillings—und an 2 Drillingspaaren. *Ergebn. d. inn. Med. u. Kinderhk.*, 31:35, 1927.
- Volhard, F.: Chap. 23. Elevated blood pressure. *The Kidney in Health and Disease*, Edited by Berglund, et al. Lea and Febiger, Philadelphia, 1935.
- Weiss, Soma and Ellis, L. B.: *Am. Heart Jour.*, 5:448, 1930.
- Weitz, Wilhelm: Zur Aetiologie der genuinen oder vascularen Hypertension. *Zeitsch. f. klin. Med.*, 96: 151, 1923.
- Weitz, Wilhelm: Studien an eineiigen Zwillingen. *Zeitsch. f. klin. Med.*, 101:115, 1925.
- White, James C.: *The Autonomic Nervous System: Anatomy, physiology and surgical treatment*. The MacMillan Company, New York, 1935.
- Williams, G. D.: Chap. 19. Hereditary aspects of arterial expansion with relation to arteriosclerosis: Arteriosclerosis. (Edited by E. V. Cowdry.) The MacMillan Company, New York, 1933.



## THE SERUM TREATMENT OF LOBAR PNEUMONIA\*

Report on the Use of Felton's Serum in Detroit  
From February 25 to June 1, 1935

ALVIN E. PRICE, M.D.†  
DETROIT, MICHIGAN

Antipneumococcus serum was first successfully used in this country by Cole in 1913. Because of the severe reactions encountered from the horse serum, this method soon lost its popularity with the medical profession. In 1924, Felton prepared a more refined and concentrated product for types I and II pneumococcus, and since that time, "Felton's Serum" has become one of the most effective agents for the treatment of pneumonia.

The literature of the past decade abounds with reports showing the value of serum treatment. It is not the intention of the author to review this work. In a recent article Belk<sup>1</sup>, has published a statistical review of the specific treatment of lobar pneumonia, and the reader is referred to this work for a summary of the results obtained in the past.

During the past winter, the mortality of pneumonia in the city of Detroit was exceedingly high. In the city hospital that of lobar pneumonia was 48 per cent. During this period the incidence of type I and II infections was also higher than usual. Because of this, specific serum treatment was thought desirable. A supply of Felton's Serum was accordingly placed at the disposal of the medical profession by the Department of Health for use among the indigent and semi-indigent people of the city.

The use of this serum was confined to patients who were hospitalized in one of the larger hospitals of the city. No cases were treated in whom the duration of the illness was greater than ninety-six hours. In the majority of instances this was seventy-two hours or less. The predominating age group was twenty to forty years, only two children under ten being treated. Seventy-five per cent were white and the remaining 25 per cent were colored. In all seventy-eight patients received serum.

#### General Considerations of Serum Treatment

*Indications for Serum Treatment.*—Therapeutic sera have been prepared for most of the thirty-two types. Of these, four (types I, II, VII, and VIII) are of sufficient potency to be of practical value. Serum

treatment is therefore indicated in all cases of lobar pneumonia from whom pneumococci belonging to either of these four types have been isolated. The following exceptions are recognized:

1. Children under twelve years of age.

Lobar pneumonia in children between two and twelve years of age is a relatively benign disease, having a mortality of 5 per cent. While the predominating organism in this age group is type I pneumococcus, the benignity of the disease and the potential danger of horse serum sensitization, make the use of serum of questionable value. In infants under two years, the severity of pneumonia approaches that of adults. In this group, type XIV is the predominating organism. Nemir<sup>5</sup> succeeded in shortening the course of the disease in eighteen treated cases with a type XIV serum, but the potency of this serum is questionable and its use is open to the same objections as in the older age group just described.

2. Patients over sixty years of age with type II infections.

Experience has shown that the use of serum in this age group is of no value as a therapeutic agent.

3. Patients ill for longer than ninety-six hours.

It has been repeatedly demonstrated that the end-results of serum therapy vary directly with the duration of the illness before treatment, *i.e.*, the earlier in the course of the disease the serum is given, the better are the results. Seventy-two hours is the desirable time limit, but it should not exceed ninety-six hours.

\*Read before the Noon-Day Study Club of the Wayne County Medical Society.

†Dr. Alvin E. Price is a graduate of the University of Michigan, College of Literature, Science and Arts, A.B., 1923; University of Michigan, College of Medicine, M.D., 1927. He is a member of the Staffs of Harper, Receiving and William Seymour Hospitals. His practice is limited to Internal Medicine.

*Contra-indications to Serum Therapy.*—The following conditions constitute definite contra-indications to serum therapy:

1. Pulmonary edema; a state of shock and extremis.
2. Allergic history, as follows: sensitiveness to horse serum (positive skin or conjunctival reaction); asthma, hay fever, urticaria, eczema, food sensitiveness, angio-neurotic edema, etc.
3. History of previous injection of horse serum, as toxin-antitoxin, tetanus prophylaxis, diphtheria antitoxin, etc.

In cases belonging to either (2) or (3) above, in whom a bacteremia exists and in whom the prognosis is obviously poor, serum may be cautiously used after desensitization has been accomplished. (q. v.)

*Sputum Typing of Pneumococcus.*—The Neufeld or "Quelling Reaction" is the method of choice because of its speed and accuracy. It is based upon the principle that a swelling or ballooning of the capsule occurs when the organism is mixed with the homologous type antiserum.

*Technic.*—To a small fleck of sputum (not saliva) on a slide, one drop of type I antipneumococcus rabbit serum is added and mixed thoroughly. To this mixture, a drop of Loeffler's alkaline methylene blue is added and the mixing continued. The same procedure is then repeated with the other type sera using separate flecks of sputum for each type. The resulting mixtures are then examined under oil after covering with cover slips. When homologous type antiserum is used, the blue staining pneumococci are enclosed in a sharply defined, ballooned out capsule. With heterologous sera, a narrow, unstained refractile rim surrounds the organism. Within recent years, typing sera have been prepared for all thirty-two types of pneumococci.<sup>2</sup>

*Administration of Serum.*—Before administering the serum, certain precautions must be observed.

*Skin Testing:* This is done intracutaneously by means of a tuberculin syringe and very small needle. Five hundredths of a cubic centimeter (0.05 c.c.) of a 1:10 dilution of horse serum are injected into the skin of the flexor surface of the forearm. The presence of an urticarial wheal with an erythematous flare developing in fifteen to twenty minutes indicates a positive reaction.

*Conjunctival Test:* This is performed

by instilling a drop of horse serum (1:10 dilution) into the conjunctival sac of one eye and then observing. This test should be done at the same time as the skin test. Injection of the conjunctiva constitutes a positive reaction. Should this be marked, it can be relieved by instilling a drop of 1:1000 adrenalin chloride solution.

*Interpretation of Tests:* A positive conjunctival test usually indicates a sensitive (allergic) individual in whom serious reactions may result from the use of serum. A positive skin test, in the absence of a positive conjunctival reaction or of an allergic history, is an indication for extra caution. Under the latter circumstances serum should only be given after the patient has been *desensitized* (q. v.). A negative skin or conjunctival reaction usually indicates that no anaphylactic reaction will occur although exceptions to this have been noted. In the present series, two cases of anaphylaxis occurred following negative skin tests.

*Adrenalin:* This should be readily available in a syringe before serum treatment is started. Its use is indicated if wheezing, cyanosis, stenocardia or collapse develops.

*Desensitization:* If the administration of serum is considered necessary irrespective of evidence for horse serum sensitivity, it must be given in the following manner: In the presence of a moderate skin reaction, 0.5 c.c. to 1 c.c. of serum should be given intramuscularly and if no untoward reaction occurs in two hours, the intravenous injection may be cautiously undertaken. When a more severe form of sensitivity is indicated by a prompt and extensive reaction, or if for other reasons one may suspect definite horse serum sensitivity, the antiserum should be administered fractionally. This may be accomplished by injecting 0.5 c.c. intramuscularly, and doubling the amount every half hour until the full dose has been administered. Subsequent treatments may then usually be given without difficulty.

*Dosage.*—The unit of dosage is the "*Felton's Unit*," and is that amount of serum which will protect a mouse against one million virulent pneumococci. According to the method of Finland and Sutliff<sup>3</sup> the serum is given fractionally at two hour intervals, starting with 5 c.c. (approximately 15,000 units). Following this in two hours, 25 c.c. (75,000 units) are given, and two hours later 45 c.c. (125,000 units). In



type II cases this last dose is repeated three to four times at two hour intervals. After a lapse of eight to twelve hours or more, further doses are given if the clinical response is not satisfactory. Using this method a total of 175 c.c. (540,000 units) type II are given in six doses within twenty-four hours after the institution of treatment. Less than this quantity is usually required in type I cases.

In the series herein reported smaller quantities were usually used. In most cases, 40,000 units were given intravenously as the initial dose and one-half (20,000 units) this amount given four hours later. The latter was then repeated in four to six hours and again in six to eight hours if the temperature was not normal. The maximum dosage required was 180,000 units; the minimum, 40,000 units, with an average of 97,000 units. Type II has usually required more than type I in most reported cases, although no appreciable difference was apparent in this series. The only type VII case treated required 40,000 units. If no improvement has occurred after forty-eight hours of treatment, the serum should be discontinued.

Parsons and Sutliff<sup>6</sup> regulated their dosage by the presence (or absence) of agglutinins in the peripheral blood of the patient. Sabin's slide method was used. After the first four hours of treatment, a drop of blood is mixed with a drop of homologous antigen (suspension of homologous pneumococci) and then examined under the microscope after drying and staining. The presence of agglutination indicates that more serum (passive agglutinins) is unnecessary at that time. This procedure is repeated every two hours during the first day, and at four hour intervals thereafter as long as toxicity is present. The absence of agglutination at any time is sufficient indication for more serum. By means of this method, a saving in the total amount of serum required is effected.

*Technic of Administration.*—It is generally agreed that horse serum in any form is best given diluted with physiological saline solution 1:10. This method was employed in all the cases of this series. A total volume of 250-300 c.c. was used. After insuring a free flow of saline into the vein the serum, warmed to body temperature and free from coagulation or precipitation, is mixed with the saline and the solution then

slowly introduced. A minimum of twenty minutes should be allowed for each injection. The patient must then be carefully observed for reactions during a period of thirty minutes after the treatment has been completed.

If circumstances make dilution in saline impractical, such as giving it in the home, the injection must be carried on very carefully. The smallest amount possible is injected into the vein, interrupting the injection with the needle in place for about a minute. This is repeated for about five minutes, during which time only a few tenths of a cubic centimeter are introduced. From then on, the injection should be slowly completed during the next ten to fifteen minutes.

*Reactions.*—Reactions following the use of serum are of three types, namely, anaphylactic, thermal, and serum sickness.

*Anaphylactic reactions* occur either during or within a few minutes after injection. They are characterized by wheezing, substernal oppression, cyanosis, etc., and call for the immediate administration of adrenalin. Serum should be discontinued at once. Very mild reactions, characterized by flushing of the face, nausea and vomiting, etc., usually require no treatment. With these mild symptoms, the injection of the serum may be cautiously continued. The anaphylactic type of reaction is prone to develop in patients having an allergic history or those who have at some time received horse serum in some form.

*Thermal reactions* occur in from fifteen to ninety minutes after an injection and are of no serious consequence. The temperature may rise one or two degrees following a chill. Treatment is symptomatic, consisting of the application of external heat and the use of analgesics for comfort. Adrenalin is of no value in this type of reaction.

*Serum sickness* occurs in about one-third of all cases treated. It is usually manifest on the seventh to the ninth day, although it may develop as early as the fourth and as late as the twenty-first day. Clinically it is characterized by fever, urticaria, arthralgia and adenopathy. Treatment consists of adrenalin or ephedrine with local applications of soothing lotions (mentholated alcohol, et cetera).

#### Clinical Results of Serum Therapy

The most striking symptomatic effect of serum therapy is the decrease in *toxicity*.





*Extensions.*—It has been reported by some that extension of the pneumonic process to other lobes does not occur after serum has been administered. In the series of cases herein reported it was observed in three instances. In a larger group of non-treated cases of all types, there were eighty-four in whom definite extension to other lobes had occurred (18 per cent).

*Complications.*—Except for the complications incident to the horse serum (serum sickness, etc.), the incidence of complications in serum-treated cases does not differ appreciably from that which exists in those not receiving serum. In the group of seventy-eight cases herein reported, there were three cases of *empyema*, an incidence of 3.8 per cent. This is slightly higher than the incidence of empyema in a much larger series of controls (2.6 per cent). Simple *pleural effusion* was present to the extent of 4.7 per cent in the control group, but was found in only one case of those treated with serum. *Multiple lung* abscesses developed in two cases following the use of serum. Both patients subsequently died. *Jaundice* occurred to a mild degree in three instances. In the control series, it was found in ten cases (2 per cent). *Cardiac complications* were rare. *Auricular fibrillation* was present in only one serum-treated case. No case of pericarditis developed during the course of serum therapy, whereas seven were found among the control series.

### Mortality

In the compilation of mortality statistics in this series, twenty-one cases were excluded from consideration. Eight of these received serum later in the course of their disease than the optimum time limit (*i.e.*, longer than ninety-six hours), and hence their inclusion did not seem justified. The remaining thirteen were among the earliest cases treated before the typing by the new Neufeld method had been perfected. Some of this latter group had a satisfactory response to serum, but all were excluded on the basis of unsatisfactory typing. There remained fifty-seven cases upon which mortality statistics were based. Of this number, twenty-seven were Type I, twenty-nine Type II, and one Type VII. Of the Type I cases five died. In the Type II cases, seven died. The only Type VII case treated had a satisfactory response. The accompanying table gives the mortality figures.

Type	Mortality Untreated	Mortality Treated	Reduction in Mortality	Lives Saved Per 100
I	36%	18%	50%	16
II	33%	24%	27%	7

*Analysis of Fatal Cases.*—In over half the twelve patients who died, there was some factor, other than the pneumococcic infection, which contributed to the fatal outcome. A strong alcoholic history was present in six while a negative history was obtained in all the other treated cases. Seven of the fatal cases were over forty years of age. Auricular fibrillation was present in one case, and a lung abscess developed in another. One of the fatalities occurred in a young man whose pneumonia developed post-operatively after a perforated duodenal ulcer. In five cases, the initial leukocyte count was 10,000 or under, an indication of poor resistance on the part of the patient.

The extent of involvement appeared to bear no relation to the mortality. In one-half of the fatal cases, only a single lobe of one lung was involved. Of the remaining six, four had two lobes, and two, three lobes involved in the pneumonic process. One-half the patients in the fatal cases received their first injection of serum within the first forty-eight hours of their illness, the remaining six receiving it after this time.

### Economic Considerations

The average duration of hospitalization of the serum-treated cases (uncomplicated) in this series was 12.6 days. In contrast to this the untreated (uncomplicated) case remained in the hospital on an average of 14.9 days. With all other existing conditions the same in both groups, the difference between the two periods of hospitalization (2.3 days) can be justly attributed to the use of serum. From an economic standpoint, this represents a saving in hospital cost, and should be deducted from the total expense of the serum. In the present series, this savings amounted to \$9.66 (cost per day, \$4.20).

The average cost of serum per patient was found to be \$43.83.\* If the saving in hospital cost (\$9.66) is deducted from this, the final cost of serum per patient was \$34.17.

\*The serum used in this work was supplied to the Detroit Department of Health by Parke Davis and Company at the wholesale price.

### Summary

The value of Felton's Antipneumococcus Serum is again demonstrated by the series of cases herein reported. There was observed a significant reduction in mortality in types I, II and VII cases and also a definite symptomatic improvement in the majority of patients.

The use of the serum should be confined to cases having the specific type pneumococcus infection and it must be given within the first ninety-six hours of illness to be effective. Children between the ages of two and twelve do well without serum, and hence its use is not indicated. The usual precautions observed in the administration of any form of horse serum should obtain in the use of antipneumococcus serum. The dosage employed has varied in different clinics, but in all there is a general agree-

ment that large quantities should be given within the first twenty-four hours of treatment.

The reduction in mortality and the lives saved more than compensate for the additional cost of the serum.

### Bibliography

1. Belk, W. P.: The specific treatment of lobar pneumonia. *Jour. Am. Med. Assn.*, pp. 868-871, (Sept. 14) 1935.
2. Cooper, G. M., and Walter, A. W.: Application of the Neufeld reaction to the identification of types of pneumococci. *Amer. Jour. Pub. Health*, 25:469-474, (April) 1935.
3. Finland, M., and Sutliff, W.: The specific treatment of pneumococcus Type II pneumonia. *Jour. Am. Med. Assn.*, 100:561-566, (Feb. 25) 1933.
4. Helm, J. B., Ferguson, D., and Noble, H. J.: Observations of pneumonia treated with specific antisera. *U. S. Nav. M. Bull.*, 32:147-151, (April) 1934.
5. Nemir, R. L.: The treatment of pneumonia in infants and children with antipneumococcus serum. *Jour. of Ped.*, 3:827, (Dec.) 1933.
6. Parsons, J., and Sutliff, W.: Specific serum treatment of Type I lobar pneumonia. *Amer. Jour. Med. Sc.*, 186: 52-61, (July) 1933.

## THE ART OF MEDICAL HISTORY TAKING

HARRY C. SALTZSTEIN, M.D.†

DETROIT, MICHIGAN

In the course of looking over many clinical records in hospitals and dispensaries, several impressions about the written histories stand out.

1. Histories in different diseases rank differently in importance when establishing the diagnosis. Histories of certain clinical diseases are regularly better recorded than others.

2. There is a vast difference in the skill with which different physicians take histories.

3. A wealth of material is stored in hospitals and outpatient charts, but is not fully utilized. This material offers extensive opportunities for systematic observation of end results and clinical research.

The following are set down as more or less pertinent observations illustrating these points:

1. Differences in value in different diseases.

Cancer of the breast is an easy history to obtain. The chart usually records the onset of the lump, and its size at the time of examination. There is not always a history of its gradual development, and preceding lactation, childbirth events, etc., are sometimes incompletely recorded. The lump is so striking that it is much more important than the history.

Exophthalmic goitre is generally such a clear cut story, with such definite time of onset of weakness, nervousness, tremor, that

"he who runs may read." The charts show this. There is usually a concise, clear cut recital of the development of this disease. This is not always true of the adenomas. Mild cardiac symptoms which have been slowly progressing for many years and which are, clinically, very important, may be missed unless the observer is on the lookout and quite familiar with the clinical entity. The atypical forms, where the question of myxedema or neuro-circulatory asthenia enters, frequently tax the skill of a most experienced observer.

Acute appendicitis histories are clear cut, but frequently taken hurriedly, and many interesting, if not essential, points in the brief few days' illness are missed. Thus, the frequency and severity of vomiting, subsidence and recurrence of pain in a chronological fashion, associated digestive disturbances, may be recorded in scanty fashion. Most important, the antecedent history of

†Dr. Saltzstein is a graduate of Johns Hopkins Medical School, 1914. He is Junior Surgeon at Harper Hospital and Surgeon at North End Clinic.



previous attacks, or months of mild, gaseous indigestion, suddenly appearing constipation, soreness on exertion, etc., which so many of these patients have, is frequently missed.

The symptoms of chronic appendicitis are frequently more conspicuous than the local examination. Even x-ray, operative findings, pathological microscopic report are not as diagnostic as is the careful analytical evaluation of the clinical history. Colonic stasis (which can distend the cecum, the thinnest part of the bowel), vasomotor imbalance, abdominal ptosis, the drag of a relaxed mesentery, sexual or other hidden complexes which cause abdominal pain must be excluded, to say nothing of all other abdominal organic causes of pain in the right lower quadrant. How carefully this is done makes, to a great extent, the difference between whether the treatment cures the patient or not. No one learns this by any other method than extended practical experience. There are no short cuts. There is no doubt that many more appendices are removed than should be, but also there is no doubt but that chronic appendicitis can mimic almost any abdominal disease; in patients under five and over fifty, without acute attacks, without even pain in the side. It is not enough to know the clinical course of appendicitis; knowledge of the earmarks of other diseases which simulate it is essential in history taking, to avoid a high percentage of error. Andreson figured out that of those patients who sought his gastrointestinal clinic, complaining of abdominal distress, 15 per cent had had their appendices out without relief. In his private practice, the percentage was higher.

A sharp, clear cut history of gall stone colic is only a third-year medical student's exercise in physical diagnosis. However, taking a history in a mild case, frequently without acute seizures, with flatulence, obesity, in a woman nearing the menopause, after years of the wear and tear of raising a family, with pelvic and abdominal relaxation, is one of the most difficult tasks in all medicine. The chief difficulty is in sifting what is chaff in the harassed woman's multiple complaints from what are actual symptoms of gall bladder distress. The commonest fault is that these are not evaluated in a chronological order. The premium on accuracy in these early cases—and the his-

tory is the chief diagnostic portion of the consultation—before there are colics, when a positive x-ray is often just another complicating factor, is high. Successfully operated upon, there is a grateful patient, who has come through the operation with little more distress than from an appendectomy, and has been spared years of suffering of which she scarcely knows. Wrong diagnosis means a worse neurotic than before, plus a tender scar, and a chance of a later ventral hernia.

Gynecologists become so proficient in palpatory pelvic examination that the clinical history, to them, is often secondary. The charts will easily show this. I remember as an interne, a long while ago, that when on one occasion the operation showed an unsuspected malignant finding, the gynecologist-in-chief of the hospital went back over the chart to see what he had found on pelvic examination—not what symptoms the patient complained of. I also remember that he seemed satisfied when he determined that the pelvic findings recorded on the chart were relatively correct. The sparse data in the clinical history, which, better taken, might have corrected the faulty interpretation, made no impression.

No class of patients is as willing to be operated upon as those complaining of pelvic distress. Whether the patient with moderate sized fibroids, or persistent pains in the side, etc., gets well from the operation depends in large measure upon how accurately the clinical symptoms are correlated with the findings on examination. A large number of fibroids (as also pelvic inflammations) owe their symptoms to associated adhesions and accompanying disturbance of intestinal peristalsis, which the clinical history, rather than pelvic examination, will disclose. Many pains in the right side, in these women, have no basis in actual pathology and will not be benefited by laparotomy. These histories do not take a great length of time to elicit, generally speaking, but demand an experienced understanding of the different symptomatology involved, and, especially for the past few years, an increasing understanding of the different types of female habitus and endocrine make-up.

Urological conditions are conspicuous for the fact that many slight differences in symptoms may be diagnostic of the location of the lesion at different sites along the uro-

genital tract, but I doubt whether any but experienced urologists are very familiar with these ear marks. It is too easy to have the patient cystoscoped, and, by and large, these conditions are not common enough for everyone to know them intensively.

The list could be extended indefinitely, illustrating different values which may be placed upon history taking in different diseases, and the most frequently recurring omissions. Surgical conditions have been taken because they are more familiar, but the whole gamut of medical illnesses could be discussed with the same interest. In some cases the examination is much more important than the history. In certain diseases, the typical case shows a clear cut history, but if the case is not typical, history is difficult to obtain. In others, accuracy and completeness are matters chiefly for time and patience. In still other diseases, knowledge of the different conflicting disease forms is essential and more important.

2. What are the chief faults in clinical histories as seen on the charts?

First, lack of precise chronological recital of the development of the disease picture. How long do the attacks last? Is there a free interval? How severe were they one year ago? Just when did the entire picture get worse? When did the loss of weight start?

"Patient first noticed pain in both legs along the tibiae up to the knees, and required canes for ambulation. Onset shortly after a heart attack.

"Leg pain comes on after exercise, unrelated to position or type of activity. Sometimes it comes on while walking and patient has to stop at once. Feet have been icy cold for the past four years."

The clinical history here is concisely written and a good word picture, but one wonders just when the pains got worse, how severe they were and how far could she walk before claudication set in two years ago, one year ago, and now. Are the pains more or less constant now and when did they become so? In short, what was the chronological development of the disease? Voluminous charts from well organized institutions, with multiplicity of special examinations and consultations can be perused without finding the answers to these simple questions.

Second, lack of detailed story of the onset of the disease. It is not appreciated sufficiently that many complicated disease states can be unravelled by a clear sequence

of the initial symptoms. The patient with continuous abdominal pain presents a less confusing story if it is ascertained that two or three years preceding, at the onset of the illness, there were free intervals, and relief from pain after the ingestion of food. The brain tumor, with a confusing complexity of manifestations due to generalized increase in intracranial pressure may be simplified by a detailed analysis of the early signs, which probably will contain some focal and localizing symptoms.

Third (as has been indicated in the preceding section), lack of familiarity with the essentials of the disease picture and its separation from other entities.

Note the following description of the pain in chronic urethritis in women:

"The chief complaint may be frequency of urination, with burning, or the patient may complain only of discomfort in the region of the urethra, and of a sense of pressure low in the pelvis, which initiate a rather constant desire to void. Again, the patient may complain of terminal burning and pain on urination, associated with marked frequency and nocturia. In short, the symptoms of one patient are seldom the same as those of another and various combinations may be present. . . . One woman complained only of suprapubic distress which was relieved by drinking enough water to make her urinate. In another case, pain was referred 2 cm. to either side of, and anterior to the urethra."

Accuracy like this demands an intimate understanding of just what complaints many persons with this condition had. It cannot be mastered without considerable experience in taking such histories; but note how diagnostic it may become.

Fourth (as also note preceding), the ability to extract from the wandering, worried, frequently uneducated and unclassified impressions of the patient a clear-cut story without bias and free from leading inquiries.

"I know of no more delicate adjustments," said Dr. W. J. Mayo in one of his clinics, "than that of the physician taking the history of a neurotic patient." Patience, sympathy, analytical observation, the ability not to waste time, are the desiderata. Most disease stories can be put down on one-half to two-thirds of an ordinary 8x11 chart sheet. Two or three closely written pages of variegated complaints may represent much effort, but does not necessarily mean completeness or accuracy. The young doctor's educational background stands out in these comparisons, and whether he has trained himself to think logically, or sets



down loosely connected impressions is readily apparent. Dictating the entire history later, either to a stenographer or into a dictaphone, is no aid to accurate recording of observations. If the entire history is held in mind until the end, an item may be missed, or a point that should be reclarified may be slid over or neglected.

Fifth, when looking over charts for possible complications, or progress, it may surprise one to find that with respect to the patient's actual condition, the nurses' notes, if put down with a bit of understanding, are generally of much more value than the internes'. "Condition good," "convalescence uneventful," says the young M.D., or "condition poor," "patient cyanosed," "exitus imminent." The nurses' notes may record that cough started on the second day and continued with expectoration; or vomiting, which later became fecal, started the third day. One can get a good clinical impression of whether the patient died of bronchopneumonia or peritonitis from the nurses' notes plus the temperature curve and drug sheet, but rarely are physicians' objective observations of complications put down with sufficient accuracy and detail to be as valuable.

It has been stated that the history and physical examination constitute 85 per cent of diagnosis—laboratory and other aids are important or essential in only 15 per cent of the patients we see. Of this 85 per cent, the physical examination (which should not take very long) represents perhaps one-third, and the history (which takes much longer to obtain well) fully two-thirds.

3. Opportunities for systematic observation of disease are contained in hospital charts, but are not used to their full value. I think we are gradually emerging from the era in medicine which Dr. Fishbein has described as the "Shift from brains to glassware," *i.e.*, when every secretion in the human body was subjected to an ever increasing number and complexity of laboratory tests. Study of large or small numbers of clinical histories is increasingly in vogue right now in scientific medicine. One needs only note how much of the literature of allergy consists of case histories or their analyses. Alvarez recently devoted a good deal of time to inquiring from several hundred individuals just what foods they could not eat, and thought that such simple inquiry had been long neglected by gastro-enterol-

ogists. After multitudinous complicated explanations for agranulocytic angina were advanced, Madison and others noted that the disease appeared shortly after amidopyrin became popular, and appeared frequently in the families or associates of physicians—persons who might more frequently take pyramidon for a headache than others.

Hospital and dispensary records are full of information which can be studied and correlated with much profit. "I can make a discovery any time I want to spend a few hours in my collection of 30,000 case records of malignant disease," Dr. Bloodgood often said half humorously, and the way in which Dr. Geschickter and others have systematically made use of that storehouse of clinical information in recent years is proof that it does not depend on one individual alone. Hospital records have been used extensively in the matter of major surgical end-results, perhaps because the surgeon must of necessity be more sensitive to his cures and failures, but in other branches, minor surgery, ambulatory medicine, et cetera, the field has hardly been touched.

The early story of rheumatic disease from 100 case records, duly classified into types, or the same for coronary disease, or the end-results of a long series of these cases observed and treated under controlled conditions, are titles which any editor would be interested in. Much of our therapeutics is still empirical; the patient improved, or we "got results." What clinical differences are there between the dozen or so different barbiturates, which are so fetchingly offered to us, and which we use so extensively? Is the combination of a barbiturate with amidopyrin more toxic than each drug separately? What differences are there in clinical end-results between the different forms of applying heat in chronic arthritis? The different methods which have been recommended for the treatment of furuncles? (Pastes, salves, ointments, wet dressings, bacteriophage, tin, zinc, x-ray, vaccines, autogenous serum, toxoid, heat, "scientific neglect.")

These are simple questions which immediately occur, for which (so far as we know) final answers are not available in the literature.

One's clinical impressions of many cases after a lapse of time are notoriously inaccurate. Controlling them statistically makes for accuracy of thought and much more

rapid development of that clinical sixth sense which can be described as the ability to prognosticate the future course of any single patient's illness.\* I once had the opportunity to ask about fifty surgeons in several cities how many cases of cancer of the breast they had operated upon during the previous year, and then obtained totals from the records of the respective hospitals. The older surgeons would not commit themselves without looking up the figures. The impressions of the others were grossly inaccurate, and usually the number was overstated. If that is so, how accurate are the impressions of the number of breast cancers which any one surgeon has cured in five years, unless accurate follow up has been secured?

Examination of 100 hospital histories of cancer of the rectum showed that loose bowels, tenesmus, rectal irritation preceded bleeding by several months in 50 per cent of the cases—a fact well known, but not always thought of by surgeons who regularly see these patients after several months of bleeding from the rectum. Likewise, any large group of gastric cancer charts will show 20 to 25 per cent where there is a history indistinguishable from ulcer, frequently including two or three more or less extensive ulcer regimes, which will prove to anyone that whatever one thinks about the relative frequency of ulcer and cancer in the stomach, the important thing is how many are indistinguishable from ulcer clinically.

Collating material available on charts

\*George R. Minot (Clinical Investigation, Jour. A. M. A., 105:641, (Aug. 31) 1935) discussing case history reports, has this to say: "Such work sharpens powers of observation and tends to prevent conclusions based on mere impressions and leads to obtaining facts." Again, "Collecting proper information over long periods of time so as to formulate knowledge of prognosis, which in many conditions is imperfect, represents a simple type of investigation. There is need for more accurate work of this sort to formulate rules to forecast the patient's future."

does not necessarily demand large numbers of records, though quantity is necessary for certain facts. There must be accuracy, a definite purpose in view, discerning and discriminating sorting, adequate controls, and an appreciation of the limitations of this sort of endeavor.

A. Graeme Mitchell† has just issued a plea for better statistical treatment of clinical research—accurate calculation of the probable error, the amount of material necessary to prove certain points, et cetera.

Many case histories are published from time to time in state and national medical journals, and, more particularly, those which are well selected should be printed. They form the basis for many of the contributed articles which are published. Case histories are often submitted for publication in a very slipshod, haphazard way. In the preparation of a case history for publication, the writer should take as much care as in the composition of an original paper. Sentences should be complete and not left without a subject, or, as sometimes occurs, without a predicate. No abbreviations should be used that are not generally understood. In other words, the author should avoid a syncopated library style. Purely irrelevant material should be omitted.

Thus the patient's history is of importance second to none, in the clinical practice of medicine. As an art, it can be painstakingly cultivated, with both profit and satisfaction. The varying degrees of importance to be attached to it, the differences in skill manifested, the opportunities for observation and clinical research afforded by written histories tax any physician's ingenuity and ability.

†Critical interpretation of clinical observations, Jour. A.M.A., 105:241, (July 27) 1935.



## DIAGNOSIS OF PITUITARY DISEASE\*

## An Analysis of Twenty Cases

AARON FARBMAN, M.A., M.D.†

DETROIT, MICHIGAN

Recent studies of the pituitary gland, both in its normal and abnormal states, have developed a much simpler way of detecting disorders of this gland. Much remains yet to be learned, and innumerable problems present themselves for solution. Nevertheless, with knowledge at hand, provided we are endocrine-conscious, in many cases earlier diagnoses ought to be made. Many pituitary disorders still go unrecognized for too long a time. This is not necessarily due to a lack of knowledge of the subject, but in general to a lack of attention to the pituitary gland during an initial history and physical examination.

A careful review of the literature of the past twenty years shows great progress in definite knowledge about the gland. Classification has been greatly simplified so that it can be generally used. Certain symptoms and physical signs during the course of an examination can at once suggest the possibility of pituitary disturbance.

We are giving an analysis of twenty cases illustrating various types of pituitary disorders showing what signs and symptoms during an initial history and physical examination suggest the presence of disorder.

Present day knowledge of this interesting gland has been derived from several sources:<sup>11</sup> (1) Comparative and experimental zoology, (2) clinical pathology, (3) histological cytology, and (4) biochemistry. A discussion of all the perplexing problems, all of the experiments and pathological findings is beyond the scope of this article. We refer the reader to our bibliography and particularly to the works of Englebach and Cushing,<sup>9,10</sup> for complete discussion of these problems and experiments. Here we only wish to give the facts which are definitely known and which will aid in recognizing pituitary disease more easily.

From the sources mentioned above we can make a simple histological and physiological classification.<sup>1,2,5,9,10,11</sup>

## A. Anterior Lobe

## 1. Chromophilic cells

## (a) Eosinophilic—

- (1) Influences growth development
- (2) Influences thyroid and adrenal activity
- (3) Adenomas produce acromegaly and other evidences of hyperpituitarism

## (b) Basophilic—Influences sex development

- (1) Adenomas described by Cushing produce sex disturbances and other evidences of hyperpituitarism

## 2. Chromophobic—no known function

- (1) Form the most frequent adenomas of pituitary and are associated with hypopituitarism of posterior lobe

## B. Posterior Lobe or Neopituitary Influences

- (1) Fat metabolism
- (2) Carbohydrate metabolism
- (3) Water intake and output
- (4) Smooth muscle stimulation
- (5) Galactagogue action

Many investigators believe that the above functions of the posterior lobe are controlled by centers in the hypothalamus<sup>7,8,15</sup> and others believe that they are controlled by the gland itself.<sup>9,10,11,18</sup> Both schools show quite conclusive evidence in their favor, and a great many controversies and unsettled problems have arisen as a result of this conflicting evidence. However, we do know that administration of the extract of the posterior pituitary gland will show a definite effect on any of the above functions, and that is all the general clinician needs at present for practical purposes.

Besides the above facts, we now have very definite evidence that the pituitary gland has a profound effect on at least the thyroid and adrenal glands. In acromegaly, repeated post mortem examinations have shown a hyperplasia of both the thyroid and adrenal. Clinically, we have found in these cases an increased basal metabolic rate and hypertension. On the other hand in chromophobic adenoma, post mortem findings are hypoplasia of the thyroid and adrenal, and clinically, the findings are usually low blood pressure and a low basal metabolic rate. In fact one of our cases of chromophobic adenoma showed such a profound effect on the adrenal gland clinically that at first Addison's disease was suspected. This also

\*From the Department of Endocrinology of the North End Clinic, Detroit, Michigan, under the direction of William Henry Gordon, M.D.

†Dr. Aaron Farberman is a graduate of Columbia College, A.B., 1923; Graduate School, M.A. in Chemistry 1924; College of Physicians and Surgeons, Columbia University, M.D., 1928; Diplomate of the National Board, 1929. He served his internships at Mt. Sinai Hospital, New York, and Harper Hospital, Detroit; Resident, Cottage Hospital, Grosse Pointe, Michigan; Surgical Staff, North End Clinic.

brings to our attention a case reported in 1923, with interesting findings, but in the light of our present knowledge, a wrong interpretation. That writer<sup>20</sup> reports a case of hypothyroidism (atypical myxedema) in which there was found at post mortem, an enlargement of the anterior lobe of the pituitary, the cells of which did not stain. He believed that this case was one of hypothyroidism with compensatory hyperpituitarism. The most likely state of affairs was a chromophobic adenoma of the pituitary producing or influencing hypothyroidism.

From the above facts it can readily be seen that a physiological and histological classification of pituitary disturbances is indicated rather than a classification of types such as diabetes insipidus, acromegaly, Froehlich's syndrome, Simmond's cachexia, Lorain-Levi type, et cetera.<sup>11,22</sup>

Thus pituitary disease could be classified as:

- A. Hyperpituitarism of anterior lobe
  - (1) Eosinophilic
  - (2) Basophilic
- B. Hypopituitarism of anterior lobe
  - (1) Eosinophilic
  - (2) Basophilic
- C. Hyperpituitarism of posterior lobe
- D. Hypopituitarism of posterior lobe

The diagnosis would depend upon an interpretation of all the facts gained from the history, physical examination and laboratory reports.

From the findings and simple classifications we have been able to formulate a simple outline, given below, which can be easily learned and used very effectively during the course of an initial history and physical examination. This outline has helped us considerably in ruling out or suspecting pituitary disease and many of the latter have been picked up which were previously missed.

H = history. PE = examination. L = laboratory.

- 1. Anterior lobe (Basophilic cells)
  - A. Sexual disorders
    - 1. Male (H) Impotence or hypersexual tendency  
(PE) Genital development
    - 2. Female (H) Menstrual disturbances, marital relations, frigidity, sterility, etc.  
(PE) Genital development
  - B. Growth disorders (Eosinophilic cells)
    - 1. Excessive obtained from (H and PE)  
x-rays of long bones—epiphysis
    - 2. Below normal obtained from (H and PE)  
x-rays of long bones—epiphysis

- C. Thyroid disorders  
(PE) Mentality (L) Basal metabolic rate, x-rays of long bones—osseous centers
- D. Adrenal disorders  
(PE) Blood pressure, hair distribution
- 2. Posterior lobe
  - A. Fat metabolism (PE) Obesity and fat distribution
  - B. Anti-diuretic effect (H) Water intake and output
  - C. Carbohydrate metabolism (L) Blood sugar tolerance test
  - D. Action on smooth muscle (PE) Blood pressure  
(X-ray of skull in all suspected cases)  
(Family history—heredity (1,21)).

Thus in the course of a routine history we may note the following: (1) Menstrual and marital history, (2) growth history, (3) water intake and output, and (4) family history of endocrine tendency.

In the course of a physical examination we may note the following: (1) Mentality, (2) genital development, (3) growth and bony development, (4) hair distribution, (5) obesity and fat distribution, and (6) blood pressure. Also we may mention in passing that such features as shape of fingers, spacing of teeth, shape of the jaw, and pigmentations, are all suggestive and helpful.

Laboratory requirements are chiefly: (1) X-ray of skull, (2) x-ray of long bones in juvenile cases, (3) basal metabolic rate, (4) blood sugar tolerance test.

It is worth while mentioning that many cases of headaches which may be of a migrainous character may be the only symptom<sup>13,19</sup> and yet this may be due to a pituitary disturbance. If other minor hormonal symptomatology of pituitarism can be found, it is well to try to treat this condition from the standpoint of deficiency of the posterior lobe substance. Many such cases have been cleared up by pituitrin when other methods have failed. When the dominant sign is an epilepsy,<sup>11,v.3</sup> polyuria, or a glycosuria and hyperglycemia, the pituitary must also be kept in mind. The terminology, pituitary headaches, pituitary epilepsy, pituitary polyuria, and pituitary glycosuria is now well established. These are known to be due to a hypopituitarism of the posterior lobe, and substitution therapy has given satisfactory results.

The following is a report of twenty cases with essential symptoms, physical signs and



laboratory work necessary to arrive at a diagnosis of pituitary disturbance.\*

*Case 1.*—I. E., male, aged fifty-two. Chief complaint, headache and vomiting. Nine years' duration. Impotent eight years. Increase in size of hands and feet. Headaches frontal severe and constant. Has large "spade" hands and prominent jaw. Blood pressure is 110/74.

Basal metabolic rate, —18. Blood sugar tolerance increased. X-ray of skull: pituitary tumor. X-ray of long bones, marked enlargement of fingers and toes.

Diagnosis: Hyperpituitarism of anterior lobe E. (Acromegaly).

Note: Eosinophilic adenoma found at autopsy.

*Case 2.*—F. F., female, aged thirty-nine, chief complaint, headaches, epileptic attacks. Two years' duration.

Dysmenorrhea, irregular menses, and amenorrhea. Water intake and output marked. Headaches frontal. Hypertrichosis and male hair distribution. Fat distribution marked around thorax and abdomen.

Basal metabolic rate, —10. Blood sugar tolerance increased; x-ray of skull, pathological sella turcica, probable tumor.

Diagnosis: (1) Hyperpituitarism of anterior lobe B, (a) Probable basophilic adenoma; (2) Hypopituitarism of posterior lobe.

*Case 3.*—A. J., male, aged forty-five. Chief complaint (1) progressive fatigue; (2) gastro-intestinal disturbances. Two years' duration.

Impotent five months. Continuous frontal and occipital headaches. Atrophy of testicles. Female hair distribution, hair on head falling out, shaves less often. Fat distribution somewhat marked over hips. Blood pressure 100/80. Pigmentation on mucous membrane of mouth.

Basal metabolic rate, —20. Blood sugar tolerance increased. X-ray of skull: pituitary tumor.

Diagnosis: (1) Chromophobic adenoma (verified by pathologist after its removal); (2) hypopituitarism of posterior lobe.

*Case 4.*—H. Z., male, aged seventeen. Chief complaint, ulcers of legs.

Genitals underdeveloped. Hair distribution very sparse. Enormous fat distribution, girdle and hips. Blood pressure 120/80. Tapering fingers, widely spaced teeth.

Basal metabolic rate, +6. Blood sugar tolerance increased. X-ray of spine, spina bifida occulta.

Diagnosis: Hypopituitarism of anterior and posterior lobes. (Froehlich's syndrome)

*Case 5.*—M. K., female, aged forty. Chief complaint, (1) rapid increase in weight; (2) severe headaches.

Amenorrhea. Very little water intake. Headaches frontal.

Family history positive for obesity.

Mentality, emotional outbursts either crying or laughing. Hypertrichosis and male hair distribution. Fat distribution, mostly face, chest and abdomen, legs and thighs spared. Blood pressure 160/100.

Purple striae on abdomen.

Basal metabolic rate, +25. Blood sugar tolerance decreased. X-ray of skull, haziness inside sella turcica.

Diagnosis: (1) Hyperpituitarism of anterior lobe B; (2) hypopituitarism of posterior lobe.

*Case 6.*—F. S., female, aged twenty-four. Chief complaint, obesity since childhood.

Family history positive for obesity.

Hypertrichosis and male hair distribution; fat distribution: neck, chest and abdomen; blood pressure 120/80. Tapering fingers.

Basal metabolic rate, —25. Blood sugar tolerance increased.

Diagnosis: (1) Hypopituitarism of posterior lobe; (2) hypothyroidism.

*Case 7.*—S. F., female, aged thirty-five. Chief complaint, (1) obesity; (2) headaches.

Amenorrhea. Frontal headaches.

Family history: (1) obesity prevalent; (2) mother diabetic.

Hypertrichosis of lower chin. Fat distribution: neck, shoulders, chest, abdomen, and thighs. Blood pressure 124/70. Tapering fingers; widely spaced teeth.

Basal metabolic rate, +10. Blood sugar tolerance decreased. X-ray of skull: probable pathological sella turcica.

Diagnosis: Hypopituitarism of anterior B and posterior lobes.

*Case 8.*—R. P., female, aged forty-four. Chief complaint, (1) obesity; (2) headaches.

Artificial menopause at 22 years of age. Shoes one size larger than several years ago. Headaches at vertex.

Family history positive for obesity.

Large hands and feet. Fat distribution general but marked around chest and girdle. Blood pressure 140/90. "Spade" hands and prognathism of lower jaw.

Basal metabolic rate, +22. Blood sugar tolerance normal. X-ray of skull: pathological sella turcica.

Diagnosis: Hyperpituitarism of anterior lobe E (Acromegaly).

*Case 9.*—J. M., male, aged fifty. Chief complaint, severe frontal headaches. Three years' duration.

Water intake increased last six months. Headaches frontal.

Family history: Two brothers with lipomatosis.

Fat distribution, lipomatosis. Blood pressure 110/80. Pigmentation in buccal mucous membrane.

Basal metabolic rate, —8. Blood sugar tolerance increased. X-ray of skull: Bridging of clinoids; erosion and deepening of fossa.

Diagnosis: Hypopituitarism of posterior lobe.

*Case 10.*—H. B., male, aged fourteen. Chief complaint, (1) underdeveloped; (2) underweight; (3) backward in school.

Short for age. Bedwetter. Frequent frontal headaches.

Mentality retarded. Genitals underdeveloped. Growth underdeveloped. No hair. Underweight. Blood pressure 90/60. Tapering fingers.

Basal metabolic rate, —11. Blood sugar tolerance normal. X-ray of skull normal. X-ray of long bones: somewhat delayed epiphyseal union.

Diagnosis: (1) Hypopituitarism of anterior lobe; (2) hypothyroidism.

*Case 11.*—L. W., male, aged sixteen. Chief complaint: (1) overweight, (2) small genitals.

Underdeveloped genitals. Undescended testicle. Hair distribution scanty around pubis. Fat distribution: chest and hips; well developed mammae. Blood pressure 110/80. Tapering fingers.

Basal metabolic rate, —19. Blood sugar tolerance normal. X-ray of skull normal.

Diagnosis: (1) Hypopituitarism of anterior lobe B and posterior lobe (Froehlich); (2) hypothyroidism.

\*Only positive findings given.

Diagnosis in parentheses are those commonly used.

E=Eosinophilic

B=Basophilic

*Case 12.*—R. S., male, aged twenty. Chief complaint, overweight.

Family history positive for obesity.

Mentality: backward in school, petty thief. Female hair distribution. Fat distribution: abdomen and hips, well developed mammae. Blood pressure 120/80. Tapering fingers, high pitched voice, widely spaced teeth, dry skin.

Basal metabolic rate, —2. Blood sugar tolerance increased. X-ray of skull normal.

Diagnosis: (1) Hypopituitarism of posterior lobe; (2) hypothyroidism.

*Case 13.*—H. S., male, aged fifteen. Chief complaint, overweight.

Excessive intake and output of water, always thirsty.

Family history positive for obesity.

Genitals underdeveloped. No hair on body. Fat distribution: abdomen and hips. Blood pressure 98/80. Tapering fingers.

Basal metabolic rate, —6. Blood sugar tolerance normal. X-ray of skull normal.

Diagnosis: Hypopituitarism of anterior lobe B and posterior lobe (diabetes insipidus).

*Case 14.*—M. W., female, aged thirteen. Chief complaint (1) marked somnolence; (2) headaches; (3) overweight.

Not menstruating. Frontal headaches. Backward in school. Fat distribution: shoulders, abdomen and hips. Blood pressure 108/76. Tapering fingers, very drowsy, walks and talks very slowly.

Basal metabolic rate, —18. Blood sugar tolerance increased. X-ray of skull normal.

Diagnosis: (1) Hypopituitarism of posterior lobe; (2) hypothyroidism (pituitary hibernation).

*Case 15.*—G. R., female, aged forty-four. Chief complaint: (1) incontinence; (2) nervousness.

Menopause one year ago.

Paranoia. Fat distribution: general, but marked on abdomen and hips. Blood pressure 140/100. Dull expression on face, dry skin.

Basal metabolic rate, —17. Blood sugar tolerance decreased. X-ray of skull: large sella, erosion of posterior clinoids, and dorsum, floor irregular.

Diagnosis: (1) Hypopituitarism of posterior lobe (a) possible adenoma; (2) hypothyroidism.

*Case 16.*—J. K., male, aged thirteen. Chief complaint, no growth since seven years old.

Undeveloped genitals. No growth since seven.

Family history: grandmother diabetic.

Mentality retarded. Genitals underdeveloped. Appearance of a dwarf. No hair on body. Fat distribution: breasts and hips. Blood pressure 90/60. Lowered body temperature, dry skin, irregularity of teeth.

Basal metabolic rate, +6. Blood sugar tolerance decreased. X-ray of skull: sella turcica very small and shallow. X-ray of long bones: no union of epiphyses of metacarpals or phalanges, pisiform absent.

Diagnosis: (1) Hypopituitarism of anterior and posterior lobes, (2) hypothyroidism (dwarfism).

*Case 17.*—G. K., male, aged six. Chief complaint: (1) overweight; (2) convulsions.

Undeveloped genitals. Convulsions since one year old.

Fat distribution: breasts and hips. Undeveloped genitals.

Basal metabolic rate, —4. Blood sugar tolerance normal. X-ray of skull normal.

Diagnosis: Hypopituitarism of anterior lobe B, associated with epilepsy.

*Case 18.*—A. M., male, aged eighteen. Chief complaint: retarded growth.

Retarded growth. Migraine headaches since patient was hit on head with brick four years ago.

Female hair distribution on pubis, scanty on rest of body. Blood pressure 122/80. "Spade" hands, small head.

Basal metabolic rate, +5. Blood sugar tolerance increased. X-ray of skull normal. X-ray of long bones: delayed union of epiphyses of metacarpals, radius, ulna, tibia and fibula.

Diagnosis: Hypopituitarism of anterior lobe E.

*Case 19.*—A. T., female, aged thirty-five. Chief complaint: (1) nervousness; (2) palpitation of the heart; (3) return of toxic thyroid symptoms eight months following thyroidectomy.

Severe and frequent parietal and occipital headaches.

Family history: brother died of Addison's disease.

Hypertrichosis upper lip, chin and legs. Fat distribution: abdomen and hips. Blood pressure 150/90. "Spade" hands, prognathism of lower jaw, fine tremor of fingers.

Basal metabolic rate, +22. Blood sugar tolerance normal. X-ray of skull: abnormal sella turcica.

Diagnosis: (1) Hyperpituitarism anterior lobe E (beginning acromegaly); (2) recurrent hyperthyroidism.

*Case 20.*—S. G., male, aged forty. Chief complaint: (1) nervousness; (2) weakness; (3) itching of skin.

Beginning impotence. Slight frontal headaches.

Family history: one brother is very tall.

Blood pressure 130/80. "Spade" hands, prognathism of lower jaw.

Basal metabolic rate, —10. Blood sugar tolerance increased. X-ray of skull: pathological sella turcica.

Diagnosis: (1) Hyperpituitarism of anterior lobe; (2) hypopituitarism of posterior lobe.

In our study there were twelve males and eight females ranging in age from six to fifty-two. Most were found in adolescence and in the fourth decade of life.

Eight of our twenty cases gave chief complaints which were in no way referable to endocrine pathology. However, noting certain findings in the history and physical examination, as set down in our outline, definite pituitary involvement was discovered.

Headache was a chief complaint in seven cases and was elicited as a symptom in five more. This symptom is so prevalent that it should be seriously considered in the possibility of pituitary disturbances.

Increasing weight and obesity were chief complaints in nine cases and elicited as symptoms in seven more.

Epileptic attacks were complained of in one case, and elicited as a symptom in another. This is sufficient evidence to make one aware of the possibility of pituitary disturbance when such a symptom presents itself.



It is interesting to note that of the eight female patients, not one gave a chief complaint of sexual or menstrual disturbance, yet upon questioning six of the eight gave histories of such a disturbance.

Of the twelve males, one gave a complaint of small genitals, but on questioning two others gave a history of undeveloped genitals and three others of impotence.

Nine of our twenty cases gave a positive family history. According to Englebach, heredity is a major factor in endocrine disturbance, but a positive family history was not found as frequently as we expected. Unreliability in the answers of our clinic group could account for this low figure.

Mental disturbances were not given in any of the cases as a chief complaint, but mental retardation was found in four, and paranoia in one. Mental retardation is usually due to an associated hypothyroidism, and three of these cases showed a low basal metabolic rate.

A positive x-ray finding of the skull was found in eleven of our twenty cases. Four showed positive x-ray findings of disturbance in long bone development.

In one of our cases, an eosinophilic adenoma was proved by autopsy, and another, a chromophobic adenoma, was found by pathologic examination after operation. The other diagnoses were based entirely upon an interpretation of clinical findings, laboratory reports and therapeutic results. They were made in terms of "hypo" and "hyper" activity of the anterior or posterior lobe, the old terminology being put in parenthesis in several instances.

Individually several of the cases present findings worth while mentioning.

*Case 1.*—This is an example of acromegaly with low basal metabolic rate and low blood pressure. The diagnosis was verified at autopsy, and although the basal metabolic rate and blood pressure are ordinarily elevated in such cases, the findings in this case can be explained on the basis of hyperactivity which had exhausted itself, after the bone changes had been made.

*Case 2.*—The laboratory findings were indicative of a hypopituitarism, but clinically, amenorrhea, fat distribution, hypertrichosis and purple striae are typical of Cushing's syndrome—basophilism.

*Case 3.*—A case of progressive fatigue, gastrointestinal disturbances, pigmentation in mucous membranes of cheeks, low basal metabolic rate, low blood pressure, was very indicative of Addison's disease and was so diagnosed by previous observers. An x-ray of the skull showed a large tumor which was diagnosed as chromophobic adenoma, because this is the only type of adenoma associated with hypo-

pituitarism. This diagnosis was verified after operation, by the pathologist.

*Case 4.*—In addition to being a typical Froehlich syndrome, patient came with a chief complaint of ulcers of the leg which were trophic in character and were found associated with a spina bifida occulta (diagnosed by x-ray). This is another example of bony maldevelopment associated with endocrine disturbance.

*Case 5.*—Clinical and laboratory findings of hypertension, amenorrhea, striae, typical fat distribution, decreased basal metabolic rate and decreased sugar tolerance were very suggestive of basophilism, yet patient lost weight and obtained relief from headaches by surgical pituitrin and thyroid.

*Case 6.*—Diagnosis of hypo-thyro-pituitarism verified therapeutically by a loss of 54 pounds in nine months by giving thyroid and increasing daily doses of surgical pituitrin.

*Case 8.*—Castration at twenty-two, developed acromegaly in later life. This sequel of castration has been occasionally reported in the literature.

*Case 9.*—Diagnosed as hypopituitarism of the posterior lobe. These symptoms followed an influenza thirteen years previously. A spinal fluid sugar was elevated. We believe that the hypopituitarism may have been influenced by a post-encephalitic process.

*Case 11.*—This patient had a definite development of genitals and descent and enlargement of the right testicle by the administration of antuitrin S.

*Case 14.*—This was a case of hypo-thyro-pituitarism with lethargy and mental retardation, called by Engelbach "pituitary hibernation." Thyroid, anterior and posterior pituitary extract caused marked improvement.

*Case 18.*—This is an excellent example of the antagonism existing between the pituitary and the islands of Langerhan's. This patient had definitely a hypopituitarism of the anterior lobe (eosinophilic) and the following blood sugar tolerance: Fasting, 57.1; one hour, 76; two hours, 62; three hours, 55.

*Case 19.*—This case is one of recurrent hyperthyroidism with clinical features of hyperpituitarism of the anterior lobe, i.e., Acromegaly. The question arises as to whether or not the pituitary in this case influenced the persistence of the hyperthyroidism after the operation.

## Summary

We have given an analysis of twenty cases of various types of pituitary disturbance, presenting interesting findings and problems. Our diagnoses were arrived at first, by means of a simple classification of pituitary disease, secondly, by a study of the facts and a review of the literature written in the past twenty years. By these means we were able to compose a simple outline of symptoms, signs and laboratory findings which would enable us to suspect pituitary disturbance during an initial history and physical examination. We have also stressed the importance of being a little more endocrine conscious, and have mentioned the

symptoms and signs which should enable one to suspect such a disturbance more easily.

12907 East Jefferson Avenue

### Bibliography

1. Aron, Max, Vanlaubert, C., and Stahl, J.: The functional troubles of the anterior lobe of the hypophysis (prehypophysis) and certain endocrine disturbances in which they play a rôle. *Presse med.*, 40:1931, (Dec. 31) 1932.
2. Atwell, W. J.: On the finer structure of the pars tuberalis of the hypophysis. *Endokrinologie*, 5:1-9, (October) 1929.
3. Barker: *Endocrinology and Metabolism*.
4. Baudouin, A., Lhermitte, J., and Lereboullet, J.: A case of pineal tumor: Absence of precocious macrogenitosomia. The problem of hypophyseal cachexia. *Rev. Neurol.*, 1:388-403, (March) 1932.
5. Bery, N. E.: Hypopituitarism with special reference to its sexual manifestations. *Canadian Med. Assoc. Jour.*, 22:354, (March), 1930.
6. Calder, Royald M.: Pituitary cachexia (Simmond's disease) treated with anterior pituitary extract. *Jour. Am. Med. Assn.*, 98:314-315, (Jan. 23) 1932.
7. Camus, J., and Roussy, G.: Anatomy and pathologic physiology of the pituitary. *Rev. Neurol.*, 17:622, 1922.
8. Claude, H., and Lhermitte, J.: The infundibular syndrome in a case of tumor of the third ventricle. (le Syndrome infundibulaire dans un cas de tumor du troisieme ventricule.) *Presse méd.*, 25:417, 1917.
9. Cushing: *Dyspituitarism Twenty Years Later*.
10. Cushing: *Pituitary Body-hypothalamus and Parasympathetic Nervous System*.
11. Englebach: *Endocrinology*. Vols. I, II and III.
12. Hilgartner, and Lankford: *Pituitary insufficiency*. *Texas State Jour. Med.*, 22:258-259, 1926.
13. Hodges, J. A.: Migrainous and pituitary headache contrasted. *Vir. Med. Month.*, 48:203-204, 1921.
14. Kux, E.: Malignant pinealoma and a malignant fetal adenoma of hypophysis. *Beitr. z. path. Anat.*, 87:59, 1931.
15. Leschke, E.: Contributions to the clinical pathology of the interbrain. *Deutsch. Jour. klin. Med.*, 87:201, 1929.
16. MacDowell, E. C.: An hereditary anterior pituitary deficiency in mouse. *Anat. Record*, 46:249-257, 1930.
17. Maronon, G.: *Pituitary obesity*. *Deutsch. Arch. f. klin. Med.*, Leipzig, 151:129, 1926.
18. Maronon, G., and Pintos, G.: Purely traumatic lesions of the pituitary, adipose genital syndrome and diabetes insipidus. *Nouvelle Iconog. de la Salpetriere*, 28:185-195, 1916.
19. Mayers, L. H.: *Pituitary headache*. *Endocrinology*, 14:319-327, 1930.
20. Merland, A.: Pathologic examination of the thyroid and hypophysis in a case of atypical myxedema. *Compt. rend. Soc. de biol.*, 88:1099-1101, 1923.
21. Osler: *Modern Medicine*. 3rd edition.
22. Parker, R. Herman: Diseases of the pituitary body. Clinical manifestations and treatment of hypopituitarism. *Southern Med. Jour.*, 93:115, 1931.
23. Stawell, R.: Disorders of the pituitary body and parapituitary region. *Med. Jour. Australia*, 2:462-464, 1930.
24. Winter, E. W.: Tumor of the hypophysis during pregnancy. *Arch. f. Gynäk.*, 144:449-451, 1930-1931.

## IMMUNE GLOBULIN USED AS A PREVENTIVE AND MODIFIER OF MEASLES

G. M. LANING, M.D., and T. N. HORAN, M.D.†

DETROIT, MICHIGAN

The Detroit Department of Health has kindly made available certain epidemiologic data regarding the measles of 1927-1928 and of 1934-1935, which is included here, prior to a discussion of a special series of cases. In 1927-1928 there were reported, in Detroit, 15,000 cases of measles, with 163 deaths; there are reasons to believe many cases were unreported. In 1934-1935, a total of 27,258 cases were reported, with fifty-eight deaths. This recent epidemic extended from October 13 to May 30, with a peak-incidence from April 6 to 18. The wide distribution by the Department of Health of both convalescent serum and immune globulin for the treatment of cases unable to pay, undoubtedly increased the total number of cases reported. In virulence the two epidemics were equal. Although mindful of a lower percentage of cases reported in 1928, a recorded mortality rate five times greater than in 1935, is proof to the Department of Health of usefulness of convalescent serum and immune globulin in the treatment of measles. There were no deaths reported among those children who were given immune globulin.

In October and November, 1934, at the onset of the measles epidemic three specific methods of treatment were considered: *Convalescent serum* had been used during the epidemic of 1928, and in the succeeding years, and was known to be of value in the

prevention and control of measles. Early in the epidemic of 1934-35 the demand for convalescent serum far exceeded the supply, new serum placed on distribution was used within a few hours and the Department of Health laboratories were unable to produce sufficient quantities. *Whole adult blood* could be given intragluteally, but the degree of protection against measles is variable, and the Wassermann reaction often unknown. *Immune globulin*, a new extract, prepared from the placenta, had been discovered by Charles F. McKann and Fu Tang Chú. It was rich in immune bodies, was available in sufficient quantities, and seemed worthy of a trial.

This report includes a total of 139 cases; ninety-three were given immune globulin; forty-six received no specific treatment. As suggested in the original report immune globulin could be given shortly after exposure

†Dr. G. M. Lanning is a member of Harper Hospital Staff, Detroit; Dr. T. N. Horan is a member of the Out-Patient Department, Harper Hospital.



	Number	Average Age	Light	Mod- erate	Severe	Compli- cations	Deaths
Immune globulin given to prevent	19*	3.5 yrs.	7	0	0	0	0
Immune globulin given to modify	74	5.4 yrs.	68	6	0	0	0
No specific treatment	46	7.3 yrs.	9	11	26	15	2

\*Twelve cases did not develop measles.

to *prevent* measles and from seven to ten days after exposure to *modify* measles.

### I. Immune Globulin Used as a Preventive of Measles

In nineteen cases immune globulin was used to prevent measles. These included children who had recently been ill from infections of the respiratory tract, ear, lymph glands, or to whom, for economic reasons, it was important there should be no sickness in the family at the time. Doses of 2 c.c. (seven cases) and 10 c.c. (twelve cases) were given one to four days after a known exposure. Twelve of these cases did not develop measles; in the remaining seven the course of the illness was light, with eruption, a degree of fever, and a transient conjunctivitis and nasopharyngitis. There were no complications.

### II. Immune Globulin Used as a Modifier of Measles

Immune globulin for modifying measles was given in 2 c.c. doses in seventy-four cases. Since a light case of measles will confer a permanent immunity on the child, this procedure is the method of choice. In epidemic times, when contacts are almost continuous, the date of exposure is often difficult to set. It was frequently necessary to give the immune globulin upon the appearance of prodromal symptoms, or in the presence of Koplik's spots. Late in the epidemic it became increasingly difficult to determine the optimum time for the administration of the modifying dose. Atypical cases were common. Often the Koplik's spots did not appear until the rash had been completely out on the body for a day or two; in other instances the bronchial symptoms preceded the corrhiza, Koplik's spots and morbilliform rash by several days. Some cases could receive no modifier since the disease was well established before diagnosis was possible. In sixty-eight cases the course of measles was light; in six cases moderate, with an intermittent fever of 102° F. to 103° F. for three days preceding and a continuous fever for three to four days

after appearance of the eruption. *There were no severe cases and no complications among those who were given immune globulin.*

Forty-six patients to whom no immune globulin was given form a series for comparison. These include children over ten years of age in good health, and others with a known allergic tendency, because of uncertainty as to the sensitizing properties of the extract. In nine the course of the measles was light, and in eleven moderate. There were twenty-six *severe* cases, often beginning with a chill, a fever of 104° F. to 105° F., a profuse eruption, severe conjunctivitis and swelling of the nasal mucous membrane, persistent cough difficult to control, and sometimes toxic vomiting, headache, and pain in the abdomen. Fifteen of these cases developed serious complications. There were two deaths. Among the complications were broncho-pneumonia (six cases), enlarged lymph glands (four cases), acute otitis media (three cases) one progressing to bilateral acute mastoid disease, requiring surgery. One of the deaths was due to encephalitis; the other to broncho-pneumonia, pleurisy with effusions, purulent pericarditis, and terminal septico-pyemia.

### Reactions to Immune Globulin

A total of ninety-three cases were given immune globulin, with eighteen reactions, eight of these following the full 10 c.c. preventive dose. There were local reactions with redness, swelling and tenderness, and systemic reactions with fever (102° F.—105° F.), malaise, and general lymph gland enlargement. These symptoms usually subsided within twenty-four hours, occasionally persisting for two to three days. Reactions were less during the latter part of the epidemic, possibly due to an improvement in the preparation of immune globulin. None of the reactions was allergic in character.

### Conclusions

1. Immune globulin was given in ninety-three cases as a preventive and modifier of measles. There were no serious cases and

no complications in this group of children.

2. In forty-six patients receiving no specific treatment, twenty-six developed a severe form of measles, fifteen with complications. There were two deaths.

3. Reactions were encountered, but not alarming and without ill effect.

4. Immune globulin is comparable in effectiveness to convalescent serum; it is an available, safe, and useful preparation in the preventing and modifying of measles.

#### Reference

1. McKann, Charles F., and Fu Tang Chú: Amer. Jour. Dis. Child., (Mar.) 1933.

## OSGOOD-SCHLATTER'S DISEASE

### Principles of Treatment with a Review of Three Cases

ROBERT D. FAIRCHILD, M.D.†

Resident in Orthopedic Surgery, Receiving Hospital  
DETROIT, MICHIGAN

Osgood-Schlatter's disease is an epiphysitis of the anterior tibial tubercle. It is a rare disease and from time to time, cases of it are noted among adolescents in a large orthopedic service. A review of the essential features of the condition with a reiteration and modification of the principles of treatment previously advocated<sup>1</sup> is necessary to bring it to the attention of practitioners for the benefit of an occasional patient with the malady.

The lesion is probably of traumatic origin,<sup>2</sup> occurs most frequently in males and most often on the left side. It is a disease of early adolescence. Our patients were eleven, twelve, and thirteen years of age, those of Hunter<sup>1</sup> were fifteen, fourteen, and fourteen, while those of Pomeranz and of Wilson, Fishel, and Lagasa<sup>3</sup> were adolescents.

Diagnosis depends on the history of pain and swelling localized to the anterior tibial tubercle in an adolescent and on the x-ray findings. The latter show anything from avulsion of periosteum of the anterior tibial tubercle to complete avulsion of the tubercle with fragmentation.<sup>2</sup>

Osgood-Schlatter's disease is to be differentiated by clinical and x-ray examination from sarcoma, tuberculous arthritis, syphilis and osteomyelitis. The pain associated with sarcoma is not present and repeated x-ray examination will help to eliminate malignancy as a possibility in diagnosis. Tuberculosis arthritis shows a fusiform swelling of the knee joint and pain on motion not present in Osgood-Schlatter's disease. Sero-diagnostic procedures will usually detect syphilitic infection in the young. There is little or no fever associated with Osgood-Schlatter's and no condensing osteitis is seen in the x-ray film. Furthermore, there are none of the acute symptoms of bone infection usually associated with osteomyelitis in the young.

The treatment which seems most effective is immobilization in plaster.<sup>1</sup> The knee and patellar ligament are thereby put at rest and healing of the epiphysitis occurs. Two to three months in plaster is recommended by Hunter. One of our cases was well after five weeks in plaster. The others in our series of three were treated by tight flannel bandages about the knee and their recovery was slower. I believe that plaster immobilization in these cases would have resulted in a more prompt cure.

Three cases with their end-results are reported, among them one case of bilateral Osgood-Schlatter's disease.

#### Case Reports

*Case 1.*—R. B. (J51735), a white male, aged thirteen, entered the Out-Patient Department with a tender anterior tibial tubercle in December, 1934. Radiographic examination of the left knee showed fragmentation of the epiphysis of the anterior tubercle of the tibia. The physician seeing him recommended bandaging of the knee. This therapy was carried out for a period of three weeks according to the mother's story when the patient returned at my request for re-examination in September, 1935. The patient has had no symptoms for several months, the mother stating that there had been none after a period of eight weeks following diagnosis. Radiographic examination showed union of the tibial tuberosity. This patient was apparently sufficiently immobilized by the flannel to get well.

*Case 2.*—J. G. (J50033), a white male, aged eleven, entered the Out-Patient Department in December, 1934, with a history of pain and swelling over the anterior tibial tubercles of both legs of twelve months' duration. Radiographic examination showed fragmentation of the anterior tubercles of both tibiae

†Dr. Fairchild is a graduate of Rush Medical College of the University of Chicago in the class of 1933 (March). He served his internship at Receiving Hospital, Detroit, Michigan, July, 1933, to July, 1934. He was Assistant Resident in Orthopedic Surgery, Receiving Hospital, July, 1934, to May, 1935, and Resident in Orthopedic Surgery, Receiving Hospital, May, 1935, to October, 1935. Dr. Fairchild is now residing in Rochester, Minn.



which was considered to be due to Osgood-Schlatter's disease. Bandaging was advised and carried out by the mother at home for most of the winter. At my request, he returned in September, 1935, and his mother stated that he had continued to have disability up to the beginning of the summer. No tenderness of the anterior tibial tubercles was present at this examination. Radiographic examination showed old fragmentation of the tibial tuberosities with union of the fragments. In my opinion, this patient would have benefited from immobilization for six weeks in plaster and would have thereby been saved months of disability.

*Case 3.*—R. G. (J38621), a colored male, aged twelve, entered the Out-Patient Department in September, 1934, because of a painful left anterior tibial tuberosity with swelling of four to five months' duration. Radiographic examination of the left knee showed fragmentation of the epiphysis of the anterior tubercle of the tibia. A cast was applied from the mid-thigh to the ankle with the knee joint in full extension and the extremity immobilized in this manner for five weeks. He was discharged from the Out-Patient Department as cured on November 1, 1934. At my request, he returned in September, 1935, for re-examination. There had been no symptoms since two weeks following the removal of the plaster and an x-ray of the left knee was ordered. The patient, however, failed to return for x-ray examination. I considered that the treatment in this case was adequate and resulted in a prompt cure.

## Conclusions

1. Osgood-Schlatter's disease is an epiphysitis of the anterior tibial tubercle occurring in adolescents as the result of trauma and the condition is easily differentiated from sarcoma, tuberculous arthritis, syphilis, and osteomyelitis.

2. Adequate treatment consists in immobilization in plaster for from five to six weeks.

3. Three cases of Osgood-Schlatter's disease are reported, one being bilateral.

*Acknowledgment.*—Radiographs of these cases were made at Receiving Hospital and interpreted by Dr. J. C. Kenning, Roentgenologist of Receiving Hospital.

## Bibliography

1. Hunter, G. V. H.: Osgood-Schlatter's disease. *Am. Jour. Surg.*, 8:833, 1930.
2. Pomeranz, M. M.: Osgood-Schlatter's disease: Lesions of the tibial tubercle. *Am. Jour. Surg.*, 39:17, 1925.
3. Wilson, A. N., Fishel, C. R., and Lagasa, J. A.: Osgood-Schlatter's disease. Report of two cases (one bilateral). *Northwest Med.*, 28:134, 1929.

## ACTIVE IMMUNIZATION OF CHILDREN AGAINST ACUTE ANTERIOR POLIOMYELITIS WITH KOLMER'S VACCINE\*

H. ROEHM, M.D.†  
BIRMINGHAM, MICHIGAN

Active immunization of children against acute anterior poliomyelitis with the vaccine prepared by Dr. John A. Kolmer of Philadelphia seems to be a safe and satisfactory procedure. At the time of writing, over eleven thousand individuals have been vaccinated. Of these none has developed the disease in the epidemic areas or elsewhere, that I am aware of, with the exception of five individuals who were intimately exposed to poliomyelitis and were vaccinated during the incubation period.

The vaccine is now prepared by incorporating a five per cent suspension of infected monkey spinal cord in 1 per cent sodium ricinoleate and one to eighty thousandth phenyl mercuric nitrate. The vaccine I have used consisted of a 4 per cent cord suspension in 1 per cent sodium ricinoleate.‡

The brain and cord of each monkey used to prepare the vaccine is injected intracerebrally into mice for the virus of lymphocytic chorio meningitis (Armstrong and Lillie) before the latter is used in the preparation of vaccine. So far this virus has never been encountered but the tests safely prevent the possibility of its access to the vac-

cine and removes all danger of its occurrence.

More than 33,000 doses of the vaccine have now been given to over 11,000 individuals with no ill effects other than occasional local reactions. Under these circumstances the complete safety of the vaccine appears to have been demonstrated.

The safety is due to several factors. The small first dose, the subcutaneous method of administration, the rapidity of anti-body production and the strong probability that the remote monkey passage virus has lost effectivity for human beings. The slight attenuation by sodium ricinoleate is an additional factor but this is relatively unimportant.

Anti-viral antibody has been promptly

\*Presented at the 1935 meeting of the Michigan State Medical Society.

†Dr. Roehm is a graduate of the University of Michigan, B.S., 1921; M.S., 1922; M.D., 1923. He is Attending Pediatric, St. Joseph's Mercy Hospital, Pontiac, Michigan.

‡This vaccine was prepared by the Wm. S. Merrell Company of Cincinnati, Ohio, under the direction of Dr. E. G. Gerwe, who also performed the serum neutralization tests.

produced in 90 per cent of the individuals in an amount which Dr. Kolmer believes affords protection.

Children vaccinated over a year ago still carry the antibody, and monkeys immunized three years ago last March are still solidly immune to intracerebral injections of ten minimal infective doses of the virus. It is to be hoped therefore that the immunity will endure several years at least, to carry children over their age of greatest susceptibility until the natural immunity of adult age is reached.

There is no evidence to indicate that vaccination will reduce in any way the acquisition of natural immunization by subclinical or unrecognized infection with the virus.

During the past year it has been found by Dr. Kolmer that the vaccine will sometimes abort the disease in monkeys when given as late as four days after the intracerebral injections of a dose of virus producing paralysis in the controls in about eight days after inoculation.

It is to be emphasized that when the vaccine is given during the incubation period it may fail to abort the disease. Under the circumstances the attack should not be blamed on the vaccine. Professor Kessel of Los Angeles has reported one such case where the disease developed in an adult four days after the first injection of 0.5 c.c. of the vaccine and there have been four other cases as stated above.

There is no evidence of a negative phase of increased susceptibility in either monkeys or humans following the administration of the vaccine. It appears therefore that it can be safely given during an epidemic and when direct exposure has occurred.

Through the courtesy of Dr. Kolmer I have vaccinated 206 children in Oakland County. Of these children 122 were males and eighty-four, females. The average age was slightly under eight years. The youngest was eighteen months old, the oldest seventeen years. Of these children twenty-six were definitely allergic to various proteins, animal or vegetable, or pollens. None of these had an allergic reaction to the vaccine. There were no systemic reactions in any child. The local reactions were confined to a slight swelling and some stiffness of the arm for a few hours.

Blood was taken from twenty-one children, about 10 per cent of the group, before

vaccination. Only one of these was found to contain antibody in sufficient amount to prevent paralysis in a monkey when injected intracerebrally with a mixture of 0.5 c.c. serum and 0.5 c.c. of a 10 per cent cord suspension of the virus.

Blood has been taken from this same group eight weeks after vaccination but these serum neutralization tests are not yet completed. Accordingly, the percentage of immune children in this control group is not yet known.

Unusual phenomena occurred in two of the vaccinated group.

*Case 1.*—Nancy L., aged nine years, an allergic child who suffers from hay fever and asthma, had an asthmatic attack forty-eight hours after her first injection of 0.5 c.c. of vaccine. Three days later she developed a small area of pneumonia at the base of the right lung. Following her convalescence she was given the second and third injections with no manifestation of allergic reaction.

*Case 2.*—Alfred A., aged ten years, was exposed to poliomyelitis by his tent mate at a summer camp. The day after the tent mate developed symptoms of the disease Alfred was brought to me complaining of headache and stiffness of the neck. His temperature was 103° F. He had a severe pharyngitis. Because of his exposure he was given the first injection of the vaccine and put to bed. His further treatment consisted of salicylates, ice collar to the cervical glands, and copious saline irrigations of the throat. Forty-eight hours later he was well. He was given his second and third injections one week apart. The day following his last injection he again complained of headache and had a fever. I did not see him as I was out of town. He was taken to a Detroit hospital, where a lumbar puncture was done. He was diagnosed as a case of poliomyelitis and put in a room with another poliomyelitis patient. In twenty-four hours he felt well, developed no paralysis, remained in the hospital three weeks and is now at home, well. He had no paralysis at any time.

In neither of these cases do I believe the phenomenon can be attributed to the effect of the vaccine. The two injections given in Case 1 after pneumonia provoked no allergic response. The patient in Case 2 was intimately exposed at camp to poliomyelitis, was again exposed at the hospital, but developed no paralysis.

### Comment

Two hundred and six children have been vaccinated with no local or general reactions of any consequence. The reactions in the two cases presented cannot be laid to the vaccine as far as I am able to judge. I regret that I am unable to give the percentage of the control group that have developed



immunity after vaccination according to the monkey serum neutralization test, at the present time.

I do not believe the vaccine is ready at the present time for general distribution for the following reasons: It must be kept on ice at all times. Bacteriologic sterility must be employed in handling the vaccine, as the

vaccine I have used contained no preservative. The serum neutralization test employed on monkeys is scarcely practicable for a large group, and we have no other test at present to determine susceptibility or immunity. It will be some time before the duration of the immunity obtained from the vaccine can be determined.

## DINITROPHENOL CATARACT

### A Case History

WALTER Z. RUNDLES, M.D.†

FLINT, MICHIGAN

I wish to report a case of cataract which I believe is due to dinitrophenol administration for reducing purposes. The effects of this drug were first reported in the July, 1935, *Journal of the American Medical Association* by Drs. W. W. Boardman, Warren D. Horner and Richard Barr Jones.

Mrs. D., aged forty-eight, white. Her chief complaint was failing vision in the right eye in January of this year. In May of this year, she went to an optometrist for an eye refraction. Glasses were prescribed, but there was no improvement in vision. This summer she complained of practically blindness in the right eye. The left eye began to fail about five weeks ago. At the present time she cannot see anything with the right eye except light and dark. The left eye can discern objects. The right eye is painful to slight pressure.

In March, 1934, she started to take dinitrophenol, three capsules daily, for about twelve weeks. She lost about two pounds a week, reducing from 180 pounds to 158 pounds. Then, because of a skin eruption, which she termed hives, and because the skin became yellow, and the whites of her eyes began to turn yellow, the drug was discontinued. In June of this year, she took about fifty capsules, three capsules per day. She had an appendectomy and partial hysterectomy two years ago. She had x-ray treatment following the operation. Tonsillectomy was performed fifteen years ago.

There is no cataract history among her ancestors. No hereditary disease history is obtainable. Her mother is 84 years of age and in good health. Her father died due to accident at the age of fifty.

The physical examination revealed a woman, forty-eight years of age, weighing 184 pounds. She is apparently in good health and intelligent. Her ears, teeth and throat show no evidence of disease. The eye examination reveals vision in the right eye, ability to count fingers only. Vision in the left eye, 20/30 corrected with .50 sphere. Intra-ocular pressure, right eye, Schiøtz 30, left eye, Schiøtz 23. The slit lamp examination of the right eye shows the cornea clear, aqueous clear, anterior and posterior chambers shallow, the iris and pupillary area clear. The anterior capsule of the lens is cloudy, striated with minute bubble appearing areas, dry and roughened. The posterior capsule very opaque,

the lens has a pearly gray color and is markedly swollen. The lens certainly looks different from any lens examined before.

The examination of the left eye reveals essentially the same condition, except that it is not so far advanced. The slit lamp examination five weeks later showed practically the same as before. At this time the left eye has become much worse.

I do not expect to perform a cataract extraction on either eye for several weeks, at least not until the intra-ocular pressure has subsided to nearly normal limits. It is interesting to note that this woman's husband took this drug at the same time and in the same amount in March, 1934. However, this summer he did not take any more, while she did. His vision is practically normal with his correction, but I can see changes in his lens with the slit lamp that do not encourage me very much. The lens is somewhat swollen, a bit cloudy and somewhat striated. Whether this will develop further is a question.

There is no doubt that dinitrophenol is the cause of cataract formation, and I feel sure that we will see a great many cataracts in the future, due to such reducing drugs. It is surely not safe to prescribe this drug until more complete experimental data are obtainable.

†Dr. Rundles graduated from the Detroit College of Medicine in 1924 after which he was assistant instructor in anatomy at the Detroit College of Medicine. He was resident in eye, ear, nose and throat at Receiving Hospital. He has pursued post-graduate courses at Harvard University and Vienna.

## CANCER SURVEY OF MICHIGAN\*

Made by

FRANK LESLIE RECTOR, M.D.†

## Cancer Statistics‡

Throughout the civilized world the cancer death rate is increasing. In the United States in 1900, cancer ranked sixth as a cause of death with a rate of 63 per 100,000, and by 1927 cancer had reached second place and still occupies that unenviable position with a rate of 102.2 per 100,000 in 1933, an increase of 62 per cent in the death rate in 33 years. The following table from the Federal Bureau of the Census shows the mortality in the United States for 1933 due to the six leading causes of death:

TABLE VIII. PRINCIPAL CAUSES OF DEATH IN THE UNITED STATES 1933

Disease	Number Deaths	Death Rate
Heart disease.....	286,356	227.8
CANCER.....	128,475	102.2
Cerebral hemorrhage....	105,554	84.0
Nephritis.....	104,263	82.9
Pneumonia.....	86,947	62.9
Tuberculosis.....	74,836	59.5

the United States, cancer is now responsible for practically 10 per cent of all deaths in the United States, an increase of approximately 40 per cent over the figures for 1920.

Heart disease and cancer are two diseases showing marked increase in death and death rates throughout the United States. While

TABLE IX. CANCER DEATHS IN REGISTRATION AREA AND PERCENTAGE OF ALL DEATHS REPRESENTED BY CANCER 1920-1933

Year	Number of Cancer Deaths	Percentage of All Deaths
1920	71,756	6.4
1921	75,113	7.4
1922	78,355	7.5
1923	81,505	7.3
1924	85,241	7.9
1925	88,623	8.0
1926	92,500	7.9
1927	95,103	8.6
1928	99,000	8.3
1929	111,562	8.0
1930	115,265	8.6
1931	117,790	8.9
1932	122,339	9.4
1933	128,475	9.9

TABLE X. DEATH RATES FOR CANCER AND OTHER LEADING CAUSES OF DEATH PER 100,000 POPULATION United States Registration Area 1924-1933

Disease	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Heart disease.....	178.1	185.5	199.1	195.7	208.3	210.9	213.5	213.0	224.0	227.8
Cancer.....	91.9	92.6	94.9	95.6	96.1	95.9	97.2	99.1	102.2	102.2
Nephritis.....	89.6	96.4	98.3	92.4	95.3	91.2	90.8	87.3	87.3	82.9
Cerebral hemorrhage....	92.7	84.4	86.3	84.0	87.2	86.1	84.9	86.7	87.5	84.0
Pneumonia.....	98.2	93.5	102.5	80.6	98.2	91.7	83.2	81.3	77.0	69.2
Tuberculosis.....	90.4	86.6	87.1	80.8	79.4	76.0	71.5	68.4	63.0	59.5

As the general death rate throughout the country is declining, due mainly to decreased infant mortality and deaths from communicable disease, and as the number of deaths from cancer is increasing throughout

some other diseases, notably diabetes, are also showing a rapid increase in death rate, the total deaths from these diseases is but a fraction of those from cancer. There is a slight increase in the death rate from nephritis and a marked decrease in the rates for pneumonia and tuberculosis.

Table X shows death rates for the six principal causes of death in the United States for the period 1924-1933, inclusive.

\*Continued from November, 1935, issue.

†Field Representative, American Society for the Control of Cancer, New York, N. Y., Clarence Cook Little, Sc.D., Managing Director.

‡The term "cancer" as used in this report includes all forms of malignancy.



TABLE XI. TOTAL DEATHS, CANCER DEATHS, DEATH RATES AND PERCENTAGE OF ALL DEATHS REPRESENTED BY CANCER  
Michigan—1914-1933

Year	Total Number Deaths	Cancer Deaths	Per Cent Cancer Deaths	Cancer Death Rate	
				Michi-gan	U. S. Regis-tration Area
1914	39,906	2,414	6.0	76.6	79.6
1915	40,441	2,567	6.3	79.2	81.4
1916	46,038	2,702	5.9	81.3	82.1
1917	47,236	2,765	5.9	81.1	82.0
1918	54,617	2,896	5.3	82.8	80.3
1919	45,636	2,970	6.5	82.9	80.5
1920	51,982	3,109	6.0	84.8	83.4
1921	44,186	3,304	7.5	87.3	86.0
1922	43,817	3,423	7.8	87.8	86.8
1923	49,333	3,470	7.0	86.5	89.4
1924	47,304	3,744	7.9	90.7	91.9
1925	49,417	3,768	7.6	88.8	92.6
1926	54,080	3,981	7.4	91.3	94.9
1927	50,600	4,156	8.2	92.9	95.6
1928	54,755	4,249	7.7	92.6	96.1
1929	56,117	4,446	7.9	94.6	96.0
1930	51,561	4,420	8.6	91.3	97.2
1931	49,068	4,610	9.4	93.5	99.1
1932	49,569	4,771	9.6	92.9	102.2
1933	48,507	4,890	10.0	97.0	102.2

In keeping with experience of other states and other countries, the number of cancer deaths in Michigan has shown a steady and marked increase, much greater than the increase in the population as a whole or in that portion of the population age 30 and above. In 1920 the cancer death rate in Michigan was 84.8 per 100,000. In 1930 it was 91.3 per 100,000. During the decade 1920-1930 there was an increase in total population of 32 per cent and an increase of 1.3 per cent in the population 30 years of age and over. During this same decade cancer deaths increased 42 per cent and the cancer death rate increased 7.7 per cent. It is thus seen that the cancer death rate increased more than five times as much as did that portion of the population age 30 and over during the same period. For nine years, 1914-1922, the cancer death rate in Michigan was approximately the same as for the United States. Since then this rate has been from three to nine points lower than that of the United States. In Table XI are shown cancer death rates for the United States and cancer deaths and rates for Michigan for the period 1914-1933, inclusive.

Information for Detroit similar to that for the State as a whole shows both a lower death rate and a lower percentage of all

## CANCER NOW RANKS SECOND AS CAUSE OF DEATH

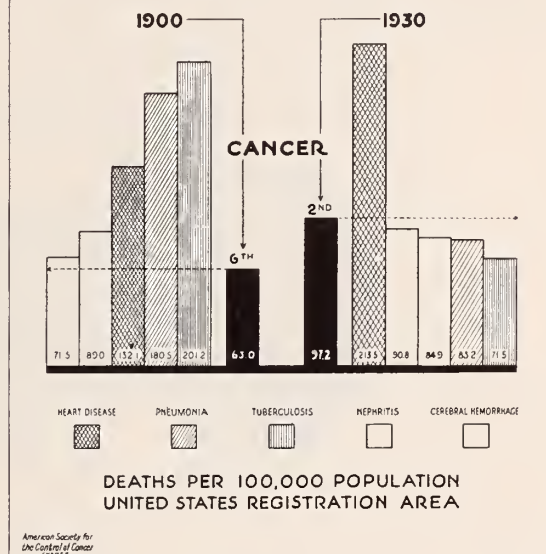


TABLE XII. TOTAL DEATHS, CANCER DEATHS, DEATH RATES AND PERCENTAGE OF ALL DEATHS REPRESENTED BY CANCER  
Detroit—1914-1933

Year	Total Number Deaths	Cancer Deaths	Per Cent Cancer Deaths	Detroit Cancer Death Rate
1914	8,409	425	5.0	62.8
1915	8,749	424	4.8	58.1
1916	10,985	448	4.0	57.3
1917	11,736	478	4.0	57.2
1918	12,889	553	4.3	62.3
1919	11,336	577	5.1	61.3
1920	13,700	640	4.7	64.4
1921	10,386	695	6.7	66.1
1922	11,077	683	6.1	61.6
1923	13,047	784	6.0	67.2
1924	12,843	892	6.9	72.9
1925	13,680	895	6.5	69.9
1926	16,226	1,008	6.2	75.3
1927	14,435	1,043	7.2	74.7
1928	16,057	999	6.2	68.7
1929	16,571	1,126	6.8	74.5
1930	14,713	1,139	7.7	72.6
1931	13,390	1,137	8.4	71.0
1932	12,988	1,198	9.2	73.3
1933	12,432	1,130	9.1	67.8

deaths represented by cancer. The cancer death rate in Detroit is a very favorable one for a city of that size.

Rates noted in the preceding tables are crude rates. Adjusted rates show but slight change and for practical purposes of this survey are not so useful as are the crude rates which give a definite measure of the cancer patients encountered in the communi-

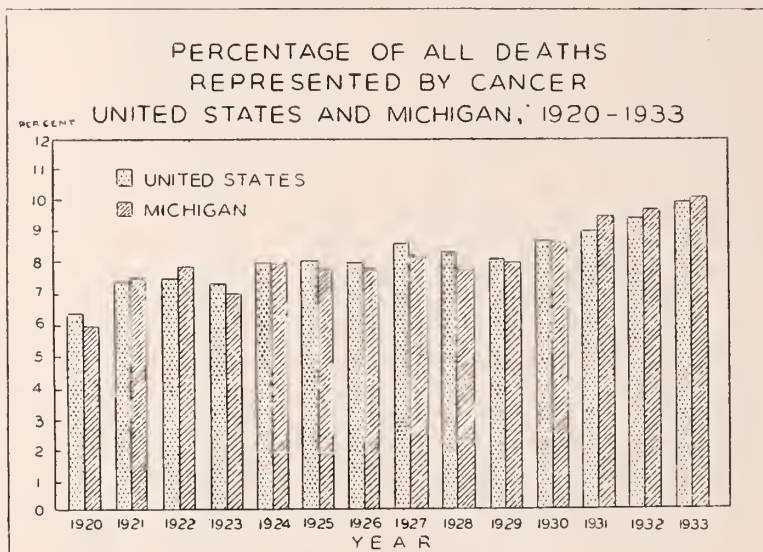
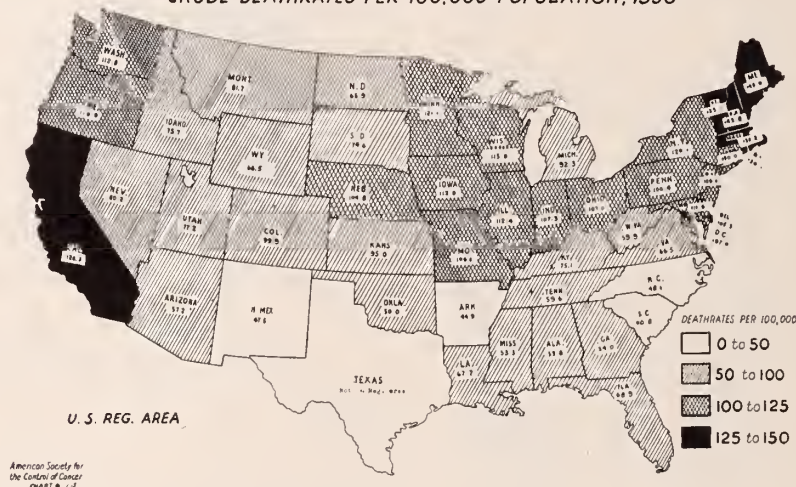
ty. Although some of these patients may reside outside Michigan, particularly in bordering Canadian communities, the professional and hospital facilities of the State are called on for treatment and such cases properly form part of the load carried by

of cancer deaths, particularly as to age groups, between the sexes.

While the general death rate has decreased during the years covered by Tables XI and XII, a marked rise has taken place in both number of deaths and the death

### CANCER AND OTHER MALIGNANT TUMORS

CRUDE DEATH RATES PER 100,000 POPULATION, 1930



the cancer treatment facilities of the State.

Tables XIII and XIV show the percentage distribution of the population for 1930 and cancer deaths for 1933 by sex and age groups for the State and Detroit. It is recognized that the use of figures for different years in these tables does not give the absolute comparison, but for practical purposes they are of value, and show some interesting differences in the percentage distribution

rate from malignant diseases. The question often arises, is cancer actually increasing or is the increase explainable on the grounds of improved diagnostic facilities and recognition of early cases?

The statistical information incorporated in this report would indicate an increase in the incidence of cancer independent of the improved diagnostic facilities and of the increasing percentage of the population now



TABLE XIII. DISTRIBUTION OF POPULATION AND CANCER DEATHS BY SEX AND AGE GROUPS  
Michigan

Age Groups	Total Population				Males			Females		
	1930 Population	Per Cent	1933 Cancer Deaths	Per Cent	1930 Population	Per Cent	1933 Cancer Deaths	Per Cent	1930 Population	Per Cent
All	4,842,325	100.	4,890	100.	2,519,309	52.3	2,307	47.2	2,323,016	47.7
Under 5	463,441	9.6	14	.28	236,070	9.4	9	.39	227,371	9.8
5-9	486,970	10.1	12	.26	246,844	9.8	6	.27	240,126	10.3
10-14	455,469	9.4	10	.21	229,865	9.1	4	.17	225,604	9.7
15-19	416,886	8.6	18	.39	209,141	8.3	13	.36	207,745	8.9
20-24	418,202	8.6	27	.59	212,341	8.4	14	.61	205,861	8.9
25-29	415,964	8.6	39	.81	217,402	8.6	17	.74	198,562	8.5
30-34	391,854	8.1	70	1.47	207,425	8.2	25	1.10	184,429	7.9
35-44	730,393	15.1	398	7.94	398,081	15.8	132	5.72	332,312	14.3
45-54	496,896	10.3	823	16.83	268,310	10.7	320	13.86	228,586	9.8
55-64	308,484	6.4	1,156	23.64	161,285	6.4	541	23.44	147,199	6.3
65-74	181,117	3.7	1,401	28.65	93,843	3.7	730	31.64	87,274	3.8
75-up	73,774	1.5	921	18.83	36,977	1.5	495	21.45	36,797	1.6
Unknown	2,875	.1	1	.02	1,725	.1	1	.04	1,150	.1

TABLE XIV. DISTRIBUTION OF POPULATION AND CANCER DEATHS BY SEX AND AGE GROUPS  
Detroit

Age Groups	Total Population				Males			Females		
	1930 Population	Per Cent	1933 Cancer Deaths	Per Cent	1930 Population	Per Cent	1933 Cancer Deaths	Per Cent	1930 Population	Per Cent
All	1,568,662	100.	1,130	100.	821,920	52.4	465	41.2	746,742	47.6
Under 5	146,610	9.3	5	.4	74,639	9.0	4	.86	71,971	9.6
5-9	148,173	9.4	4	.4	74,956	9.1	1	.21	73,217	9.8
10-14	133,280	8.5	2	.2	66,409	8.1	1	.86	66,871	8.9
15-19	123,082	7.8	4	.3	59,216	7.2	4	.86	63,866	8.6
20-24	151,642	9.7	10	.9	75,248	9.2	4	.86	76,394	10.2
25-29	170,272	10.9	18	1.6	89,944	10.9	11	2.30	80,328	10.7
30-34	160,573	10.2	22	1.3	87,439	10.6	7	1.50	73,134	9.8
35-44	275,647	17.6	153	13.5	156,877	19.1	52	11.20	118,797	15.9
45-54	146,857	9.3	234	20.7	82,017	10.0	80	17.20	64,840	8.7
55-64	69,142	4.4	276	24.4	35,149	4.3	111	23.90	33,993	4.6
65-74	32,033	2.0	273	24.4	14,969	1.8	130	28.00	17,064	2.3
75-up	10,283	.6	129	11.4	4,400	.5	61	13.10	5,883	.8
Unknown	1,041	.1	...	...	657	...	...	...	384	...

TABLE XV. CANCER DEATHS BY SEX AND SITE OF LESION

Michigan and Detroit—1933

		Cancer Deaths			
		Michigan		Detroit	
		Number	Per Cent	Number	Per Cent
All forms.....	Male	2,307	47.2	465	41.2
	Female	2,583	52.8	665	58.8
Digestive tract and peritoneum.....	Male	1,281	55.6	257	55.3
	Female	990	38.3	222	33.3
Uterus.....	Male	....	....	....	....
	Female	586	22.7	162	24.3
Breast.....	Male	6	.2	3	.6
	Female	489	18.9	128	19.2
Male genito-urinary organs.....	Male	433	18.8	72	15.5
	Female	....	....	....	....
Other and unspecified organs.....	Male	236	10.0	50	10.7
	Female	312	12.1	89	13.4
Buccal cavity and pharynx.....	Male	152	6.6	31	6.7
	Female	32	1.2	7	1.0
Respiratory system	Male	125	5.4	48	10.3
	Female	39	1.5	17	2.6
Skin.....	Male	74	3.2	4	.9
	Female	35	1.4	6	.9
Other female genital organs.....	Male	....	....	....	....
	Female	100	3.9	34	5.1

found in the older age groups, and of other factors which may influence the situation. The consensus of opinion of authorities on this question is that there is a definite increase in the incidence of cancer. This question was discussed by the Bureau of the Census on page 80 of its report "Mortality Rates 1910-1920."

"The contention that cancer is not actually, but only apparently, increasing seems no longer tenable. Better diagnoses undoubtedly account for part of the increase shown, but not for all of it. Figures for England and Wales, compiled by Dr. T. H. C. Stevenson, and published by the Registrar-General's report for 1917, clearly established an actual increase in mortality from cancer of accessible sites and our own figures presented in 1920 Mortality Statistics confirmed Dr. Stevenson's findings. For example, for females in the registration states of 1900, the 1900 adjusted death rate from cancer of the breast per 100,000 female population was 9.2 and the 1920 adjusted rate was 16.9, an increase of 84 per cent. For a site so accessible it is inconceivable that the difference in the above rates could possibly be due to difference in diagnostic power."

Figures for cancer of the buccal cavity, similar to those quoted above for cancer of the breast, show that in 1900 in the United States registration area, the death rate for buccal cancer was 1.6 per 100,000. By 1910 this had increased to 3.1 and by 1930 to 3.9 per 100,000. Cancer of the buccal cavity

always has been easily accessible and the increase noted cannot be explained entirely on the basis of improved diagnosis.

Table XV, showing cancer deaths in Michigan and Detroit by sex and site of lesion, indicates the important place held by cancer of the digestive tract and peritoneum, particularly in males. More than 55 per cent of cancer deaths in males were due to its presence in these organs. Approximately 45 per cent of cancer deaths in women were in the reproductive organs and the breast. The most marked differences in cancer deaths in the two sexes are found in the buccal cavity and pharynx, respiratory system, and skin. In each of these locations, deaths in males are from two to six times as many as in females.

The most marked differences in percentage of deaths between the State and Detroit are seen in cancer of the respiratory system, which accounts for approximately twice the percentage of both sexes in Detroit as compared with the State as a whole, and cancer of the skin, where the position is reversed, showing about half as high a percentage of deaths from cancer of the skin in Detroit as in the State.

(To be continued in January, 1936, issue)



## President's Page

---

### THE DESTINY OF IMMORTAL MEDICINE IS IN YOUR HANDS

JUST three years ago, one of your presidents wrote a few lines in these columns. It was an inspired message. It was called "The Soul of Medicine." Out of that darkest night, it prophesied that uncurbed mundane greed would kill the soul of industry, the soul of banking, and even the Soul of Medicine. It warned that depersonalization of the human relationship between physician and patient, urged by those fanatically working to change radically the practice of medicine, would counterbalance all medical progress made since the days of Hippocrates and turn fruit into ashes.

Three years have seen some of the prophecy come true. Impersonalized banking has been dethroned, not without great loss and suffering to a people blinded by a golden image; grossly unethical industry has been throttled or put into stocks by legal compulsions. Medicine alone seemed to have recognized the danger in time, and through valiant preventives is in a fortuitous position to save its Soul from ruin.

The valiant preventives are simple, time-proven remedies; the principles of (a) personalized service between patient and physician which relation must remain as long as Medicine is a *healing* art; (b) fair dealing on a mutual basis, with the physician rendering good medical care—the best he can supply—to the patient, for which he receives reasonable compensation. Adherence to these principles—simple ethics—will keep Medicine in its niche as a noble profession and make compulsory legislation totally unnecessary.

Medical societies have the two-fold function of informing and serving their members and the public. Your State Society will continue and will augment its active work in these matters, and urges each and every county medical society to enter into the program of the coming five years, and to cooperate enthusiastically. The labor of bringing accurate up-to-date information concerning Medicine to the people is one in which every physician in the State must do his part if the message is to be heard by all. This means Knowledge on the part of the county medical society, its officers, its every member. More, it means that every county medical society shall garner into its membership every ethical physician in the community. This must be done at once. Start now.

Untruths, mistruths and half-truths concerning the practice of Medicine are being disseminated by groups and individuals. This propaganda must be dampened by the Truth coming down as a cloud-burst. Let every physician know the Truth and spread his knowledge as the rain. Knowledge is Power.


So long as the individual physician adheres to his social responsibility of ethically serving and educating his patients, the Soul of Medicine, even in its darkest travail, can never die.

\* \* \*

### Thank You for Support

Your president is grateful for the many expressions of support which the administration has received. He appreciates the willing acceptance of added responsibilities by members appointed to the committees. He has sanguine hopes and ambitions for a virile, achieving State Medical Society. He asks for continued support by the membership of the officers and committees.

On the eve of the holiday season, your president extends to you his sincere wishes for a Very Happy Christmas and a New Year full of health and prosperity.



# THE JOURNAL

OF THE

## Michigan State Medical Society

### PUBLICATION COMMITTEE

A. S. BRUNK, M.D., Chairman.....Detroit  
 HOWARD H. CUMMINGS, M.D.....Ann Arbor  
 B. H. VAN LEUVEN, M.D.....Petoskey

### Editor

J. H. DEMPSTER, M.A., M.D.  
 5761 Stanton Avenue, Detroit, Michigan

### Medical Secretary

C. T. EKELUND, M.D.  
 35 W. Huron Street, Pontiac, Michigan

### Business Manager

Wm. J. BURNS, LL.B.  
 2642 University Avenue, St. Paul, Minnesota  
 or  
 2020 Olds Tower, Lansing, Michigan

DECEMBER, 1935

*"Every man owes some of his time to the up-building of the profession to which he belongs."*

—THEODORE ROOSEVELT.

## EDITORIAL

### VALE 1935!

We are approaching the close of another year. Perhaps the most outstanding feature in Michigan medicine is the general awakening to the fact that the profession must stand together. There have been many factors that tend to make inroads upon medicine so as to render difficult the practice of medicine as it should be performed. These opposing factors vary with the locality. It is clear, however, that if the physician is not remunerated adequately for his services, he cannot render service that would otherwise be possible. It is not necessary to name the factors making it difficult for him to carry on. They are well known. If, however, there is any lesson to be learned from the year's experience, it is that as physicians, we must submerge minor differences and stand together. Nothing will be accomplished by a divided society.

The county medical society is the basic unit of organized medicine. It is in the truest sense democratic. That is, every member has a voice in the election of the various men who represent him for the year. It is not enough that president, secretary, council and trustees be elected; they should have the active support throughout their

term of office of those who elected them. It cannot be too strongly emphasized that every eligible physician should be a member of his county society. The state medical society is no stronger than the aggregate of county societies can make it, and the American Medical Association is what it is by virtue of the delegates from the forty-eight states who constitute the directing body, the house of delegates. If one is not satisfied with the conduct of medical affairs, the remedy is not in remaining aloof as an outsider, but by giving the county society his support and thereby make his influence felt in shaping the policies and destinies of organized medicine.

The appointment of an executive secretary is an important forward movement. He will take care of the detail work of the state medical society under the direction of the medical secretary and the council. It will be the constant effort of this JOURNAL to keep the members fully informed in regard to various situations, economic, social, or other, as they arise. We would, therefore, urge, read your JOURNALS from month to month; preserve them for reference. Full reports of deliberations of the house of delegates, the council meetings and the meetings of the executive committee will appear soon after they are held. Keep informed and be ready at all times to render what service may be requested of you.

### POST-GRADUATE MEDICAL EDUCATION

The necessity for post-graduate study is recognized not only by the majority of physicians, but many laymen as well are coming to realize that they get the best medical care from doctors who are life-long students. But what does education mean? Is it a matter of attaining a high degree of technical skill, or is it an enlarged understanding of the basic principles of an art or science? We like to look upon education as that which broadens the understanding; a truly educated person should be able to grapple with the unknown—a new situation. Charles Singer, the medical historian, once defined science as the effort on the part of man which concerns itself with the borderline between the known and the unknown. In a strict sense this means research. The scientist takes a long range rather than an



immediate view. To quote Singer, "The curse of the science of medicine, as of all sciences, has been the so-called 'practical man,' who will consider only the immediate end of his art without regard to the knowledge on which it is based."\* In other words, emphasis is laid upon the importance of the principles of medicine rather than the details of the practice.

Many in this state have availed themselves of the post-graduate opportunities that have been brought almost to their door, by the joint efforts of the Michigan State Medical Society and the Department of Post-Graduate Medicine of the University of Michigan. How many have pursued the work with Singer's idea in mind, that a real post-graduate education should aim at a knowledge of underlying principles of medicine and surgery rather than the ability to perform "stunts" (a more dignified term would be technic), the importance of which we would in no sense belittle? It is one thing to know how to make a skin test for tuberculosis or to perform a Schick test for diphtheria; it is of greater importance to understand the principles of immunity. It is highly essential for a surgeon to acquire a skillful technic for a gall-bladder operation; it is of even greater moment to understand the changes and to diagnose the conditions which render the operation necessary.

How many of those who have attended the post-graduate courses held at the University and in Detroit as well as other centers, have done so with the purpose of acquiring real education in the time allotted? Much may be attained in the short intensive courses if pursued in the right spirit.

Another means of post-graduate study is the reading of medical journals. The first paper in this number of the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY is virtually a monograph on the subject; each of the other contributions merits close study by those interested in the subjects with which they deal.

Master technic by all means. However, if post-graduate medical education does not accomplish more than this, it has failed of its highest achievement. It can fulfill its function only if the physician attend the entire course in which he is interested and make the course progressive from year to year.

## DR. WILLIAM M. DONALD

"Sounding in moral virtue was his speech,  
And gladly would he learn and gladly teach."

Dr. William M. Donald of Detroit has been appointed professor and chief of the Department of Medicine, Wayne University Medical School, Detroit. Dr. Donald has been on the faculty of the Detroit College of Medicine for over a quarter of a century.



WILLIAM M. DONALD, M.D.

He became head of the department of medicine, succeeding the late Dr. George McKean. Dr. Donald is a graduate of the McGill University, Montreal, where he first met the great Osler, concerning whom he has very vivid recollections as teacher and outstanding personality. Dr. Donald attended and later graduated from the Detroit College of Medicine. He has always pursued general practice and as such calls to mind other great internists such as Sir James McKenzie, who refused to be designated by other than the term "general practitioner."

During his long career in medicine, Dr. Donald has never ceased study. He exemplifies that fine type of medical practitioner who excels equally in both the science and the art of his calling. Genial in manner, he has proven himself a genuine friend of all students. Perhaps the attitude of the graduate towards an old medical teacher cannot be expressed better than by a remark made about Dr. Donald by one of his

\*A Short History of Medicine by Charles Singer, page 62.

old students, "When I meet him, say, in the elevator of the building, I always feel like standing back and repeating the declaration in the Hippocratic Oath, 'I will reckon him who taught me this art equally dear to me as my parents'." Many others perhaps who have not recalled the Hippocratic promise have doubtless felt the same way.

On Dr. Donald, as we have announced, was conferred the honorary degree of Doctor of Science in Medicine by the Detroit Board of Education, the governing body of Wayne University, at the last annual graduation.

He was recently elected chairman of the Beaumont Foundation in connection with the Wayne County Medical Society. Dr. Donald has occupied this position before, and perhaps, outside his college work, there is nothing in which he takes greater interest than the selection of the speaker for the annual Beaumont lectures, a tradition quite in keeping with the spirit of medical education inasmuch as the Beaumont lectures each year are on some subject basic to both medicine and surgery and allied specialties.

### INSIDIOUS PROPAGANDA

Under the heading *The Decline of the Professions*, *Harpers' Magazine* for November, appears another article somewhat cryptic which leads up to a proposed solution of the so-called medical problem by socializing medicine. The author is Harold J. Laski, Professor of Political Economy in the University of London. Laski is a clear, forceful writer when on his own subject, namely, government, but somewhat reckless when it comes to suggesting a way out for another profession of which his knowledge smacks of the amateur.

The professions that in Laski's opinion, "ain't what they use to be," are Law and Medicine. He devotes much less space to journalism and architecture. Passing over his interesting analysis of law which he should be competent to discuss, he pays his respects to medicine. The average doctor who becomes a general practitioner, he goes on to say, is largely a prisoner serving a life sentence. His success depends only partly on his scientific skill, more upon his bedside manner, his social graces or the social graces of his wife; or he may fail to make headway because of his inattention

to some rich neuresthenic. He falls behind because he does not take a long holiday for fear that his practice will disappear to his rivals; hence, he is unable to keep abreast of medical advances by post-graduate studies. The writer is evidently describing conditions in England rather than in the United States.

A person is a prisoner at anything only if he feels himself so. It is true the family physician at times works long hours but where this gives him a sense of economic security, he is anything but a prisoner serving a life sentence. He derives great satisfaction from his work and is therefore the freest of men so long as this lasts. In the United States and particularly in Michigan, post-graduate facilities are brought right to his door. He may embrace the opportunity with the minimum sacrifice of time from his professional work if he so desires.

Speaking of the treatment meted out to rich and poor, he says: "With noble and notable exceptions, it is largely true in Great Britain that a successful panel-doctor under the insurance system cannot hope to grapple adequately with his patients," and again, "It is notable that a rich man who fights a charge of being drunk when driving a car is almost invariably able to bring a private physician to encounter police evidence brought against him: it is also notable that a poor man under a similar charge rarely appears able to secure such evidence on his behalf." These are situations which, if true, apply entirely to England and are an indictment against the system that prevails there. Presented to American lay readers they are obviously wholly misleading.

A charge is brought against the medical profession for its alleged indifference to matters pertaining to public health. This, also, will hardly square with the facts. In refutation, we quote from another English medical writer well qualified to speak. No less a person than Sir George Newman, chief medical officer for the Ministry of Health of Great Britain, contends that the advance in the prevention of communicable diseases and sanitation had its beginning and continuance in clinical medicine. After mentioning the great Sydenham, whom he declares to be the first of the epidemiologists, he goes on, "Then in the eighteenth century comes a succession of clinical practitioners. Mead, Floyer, Sloan, Fothergill, Lettsom, Cheselden, Huxham, Heberden,



Hoggarth, Hewson, a group of obstetricians, the Hunters, Pringle, Pratt, Withering, Blane, Baker, Baillie, Jenner, and every man of them left a mark on English medicine and as we shall see, laid the clinical basis of preventive medicine."

Laski's solution for both medicine and law is to organize them as public services. The legal profession should be under government control and should work for the public for a fixed salary. For medicine, he would extend the idea of insurance for medical care to all members of the population. Of course, this is state medicine in the fullest sense of the term. Mr. Laski's paper, interesting as it is, is about as germane to the problem of medical care as it presents itself in America, as a paper written by an educated American layman would be to similar problems in the British Isles.

## THE SECOND CAUSE OF DEATH

Under the auspices of the Cancer Committee of the Michigan State Medical Society will appear in this JOURNAL a series of six brief papers on the cancer problem for members of the medical profession who first see cancer patients. The papers will be printed unsigned, but with the assurance that each is prepared by some one eminently qualified, and all with the endorsement of the committee. A vigorous campaign has been inaugurated to inform the public of the insidious nature of cancer and of the importance of an early diagnosis if a cure is to be effected.

A series of newspaper releases has already been employed and the responses indicate marked interest in the subject on the part of the laity. These will be supplemented by addresses by physicians to lay groups such as luncheon clubs, women's clubs and parent-teacher associations as well as senior students in high schools. The knowledge desiminated among such groups presupposes preparation on the part of the entire medical profession to meet possible patients who seek medical advice. Coincident with the papers mentioned will appear instalments of the Report of the Cancer Survey which has been very carefully prepared and which merits close study.

"Hostile philosophies war with one another, like male and female, and become fruitful only when they merge."—Will Durant.

## HOW STATE MEDICINE WORKS IN AUSTRIA

(*New York State Medical Journal*)

Ten per cent of Austria's doctors "are totally unemployed and without means of subsistence," according to a special wireless dispatch from Reginald Sweetland to the *Chicago Daily News* Foreign Service, and 20 per cent are trying to live on fees of less than \$30 a month. This is under a regime of state medicine. It seems that of the 8,000 registered medical practitioners 7,000 are able to earn a subsistence wage in examining patients for the State social insurance scheme and Federal clinics. This number is to be reduced by about 4,500 under a new law which virtually closes the door of private medical practice.

Roughly 80 per cent of Austria's 6,000,000 population are beneficiaries in State social insurance schemes and as such they get practically free medical attention, the State paying but a tip to the doctors qualified by the Government to deal with such State business.

Under the stipulations of the law of last April 1, which is now having disastrous effects upon the medical profession, 80 per cent of all Austrians under the social insurance scheme are limited in selecting their own private physicians, since the State pays the medical fees for such patients with the natural result that the Government, in usurping the clientele of private medical practitioners, is reducing them to financial despair and destitution.

## MERRY CHRISTMAS

Oh! Ah'm nae sae verra happy  
'Boot th' men an' women noo,  
Wha are sayin' that we're "batty"  
'Cause o' certain things we do.

They are sayin' there's nae Christmas  
Nor ony Santa Claes,  
An' ringin' bells is just a witness  
O' oor funny mental haze.

Bit, ah dinna care aboot th' change,  
New deals are nae for me,  
Ah'll ring thae bells wi' candy canes  
An', a wee bit bairmie be.

Ah'll hang ma stöckin's by th' lum  
An' dress like Santa Claes,  
An' trim th' tree when nicht is mum  
An' hae th' grate ablaze.

An' wull ye no come ben some day  
This merry Christmas time,  
An' help us tae be blythe an' gay  
Wi' feast an' song an' rhyme?

WEELUM.

*If you are tempted to reveal  
A tale someone to you has told,  
About another, make it pass,  
Before you speak, three gates of gold,  
Three narrow gates—first, "Is it true?"  
Then, "Is it needful?" In your mind  
Give truthful answer; and the next  
Is last and narrower: "Is it kind?"  
And if to reach your lips at last  
It passes through these gateways three,  
Then you may tell the tale, nor fear  
What the result of speech may be.  
—From *The Arabian*, quoted in *The Rainbow*.*

## MEDICO - LEGAL DEPARTMENT

### UNJUST MALPRACTICE CASES

By HERBERT V. BARBOUR\*  
*Detroit, Michigan*

The editor of *THE JOURNAL* has suggested some subjects that he thought would be of interest to the profession, but has permitted the writer to use his discretion as to when they should be presented. It is agreed, however, that any articles on recent cases illustrative of practice and technic to be observed by doctors to protect themselves properly against unjust malpractice cases should come first.

Very recently I assisted in the trial of a case against a very competent member of the State Society who, in my opinion, was unjustly accused. The case involved a fracture of the neck of the femur of a man about thirty-two years of age. To the average juror, a fracture of the greater trochanter, or the head of the femur, or the acetabulum, or any bone in that region, is known as a "hip" fracture, and it is the common belief of the layman that any so-called "hip" fracture requires special attention and long immobilization. It does not occur to the average layman that a good result without shortening is extremely difficult to obtain.

In the case at bar, a Whitman cast was applied and x-rays taken before and after the application of the cast. After six days, the patient was permitted to return to his home, which was considerable distance from the hospital.

The plaintiff claimed that the physician did not call to see him for the next six weeks (which claim was denied by the doctor), and that when he did come out at the end of six weeks he removed the cast but took no x-rays before removing it, and did not take measurements of the leg after the cast was removed. The doctor denied these charges.

Other claims of negligence were that the cast was permitted to loosen at the top, and that after the cast had been removed for only a few days, defendant instructed plain-

tiff to discard his crutches and walk on the leg.

The expert witness for the plaintiff—a physician who has testified, according to his own statement, thirteen or fourteen times in malpractice cases in Michigan and who admitted that he had testified the week before in a tonsillectomy case—furnished the necessary testimony to carry the case to the jury. He first stated that he was familiar with the practice in this locality where the alleged malpractice occurred, although he had never seen an operation in that city or in any city of similar size in Michigan, and that the usual and ordinary practice was to apply the Whitman cast practically to the armpits and to keep the cast tight for the purpose of furnishing traction, which, of course, you readers will recognize as ridiculous.

The other alleged errors in treatment, according to the testimony of this witness, were in not making daily calls on the patient after the cast was put on, in not making repeated x-ray pictures after the cast was applied, and in permitting the patient to be taken home after being in the hospital only six days after the cast was applied.

The writer feels sure that the defendant in the case was guilty of no malpractice, but the hospital charts were not in the best of condition, and unfortunately the defendant had written in the words "impacted fracture," which he meant to explain the position of the bones after the fracture had been reduced. No memorandum was made at the time the measurement was taken after removal of the cast, although it later appeared on the hospital chart, but not on the office records of the physician. This brings me to the points which I want to illustrate and urge physicians to observe in treatment of similar cases in order to furnish a proper defense, knowing there is a physician in this state who will testify to such absurd requisites in the treatment of such cases. Summarizing, I want to emphasize the following points:

1. In cases of so-called "hip" fractures, unless there are strong contra-indications, keep the cast on for a considerable period of time, for instance, ten or twelve weeks.
2. If possible, before removing the cast, take an x-ray even though it will perhaps not give much evidence of union, either callus or bony.

\*Mr. Barbour is attorney for the Michigan State Medical Society.



3. Give written instructions, if possible, as to when to discontinue the use of crutches, or give orders in the presence of witnesses.

4. Have some written memoranda concerning your original statement to patients of the difficulty in many instances of securing even a useful leg and the almost certainty of shortening, as the plaintiff and other lay-witnesses testified in this case that the doctor told them they could be practically assured of a perfect result.

It is the hope of the writer that these articles which will appear from time to time will help eradicate the seemingly increasing menace of unjust malpractice cases. This does not mean that in the opinion of the writer there are not some causes for complaint, because I have had cases where I felt there was some question as to whether the doctor had given proper attention to the case. Such cases are so much in the minority that they are almost negligible in number, and when such cases arise I always urge that, if possible, they be settled for the actual damage resulting.

#### DIETING

Ah'm readin' a' th' literature  
That's comin' frae th' press,  
Aboot th' diet an' th' cure  
For those wha's i' distress.

They recommend some orange juice,  
Some rice an' macaron',  
Bananas too are noo in use  
An' whitefish aff th' bone.

Yer no tae eat substantial meat  
Or candy, cake or jams,  
Nor sic a thing as auld pig's feet  
Or guid auld yellow yams.

An' noo they say at noon tae tak  
Twa slices o' broon bread,  
Wi vegetables frae th' sack,  
Nae cooked noo they've said.

They gi' ye this an' gi' ye that,  
Forgettin' a' th' best,  
Like finnan haddie an' oat cake,  
Oat meal an' watercress.

Oh gi' me those wha'll let me eat  
Ma porridge an' short breed,  
An' scones that's baked upon th' peat  
An' Haggis—a' ah need.

WEELUM.

## BE PREPARED FOR YOUR CANCER PATIENT

### RESPONSIBILITY OF THE PHYSICIAN TO THE CANCER PATIENT\*

In each of the next six numbers of the JOURNAL there will appear a short article dealing with cancer. These articles are being prepared by the Cancer Committee of the Michigan State Medical Society and are intended to make the medical profession more cancer-conscious. A disease which rates second as the leading cause of death in the United States—more than one death per thousand population each year—should require little stimulation to make it a subject of intense interest. Yet a strange apathy exists on the part of the public and in some quarters of the medical profession. The attention of every one is at present focused upon the large number of automobile deaths and the topic is on everybody's lips; yet the fact that there are five times as many deaths from cancer seems to create no alarm. It is probably safe to say that if a new epidemic occurred in our state during the next year, which caused fifteen deaths, we would read about it in big black headlines, but fifteen deaths from cancer in Michigan every day, month in and month out, occasions no particular comment. Perhaps an attitude has developed similar to that toward rainy weather—we don't like it but don't know what can be done about it. Well, it is a discouraging disease upon superficial examination but the more familiar one becomes with the subject the more one becomes impressed with its curability. At the last Clinical Congress of the American College of Surgeons 25,000 authenticated five-year cancer cures were reported and probably a larger number have not been reported. Without any doubt these cases were detected early and adequate treatment instituted promptly.

The accusation comes from the laity and also from within the profession that nothing is known about the cause and the cure of cancer and the doctors are helpless. This is of course untrue. A great deal is known about the cause of cancer; the disease can be pro-

\*This is the first of a series of six articles under the authorization of the Cancer Committee of the Michigan State Medical Society.

*"Knowledge and Wisdom, far from being one,  
Have oftentimes no connexion. Knowledge dwells  
In heads replete with thoughts of other men;  
Wisdom in minds attentive to their own.  
Knowledge is proud, that he has learnt so much;  
Wisdom is humble, that he knows no more."*

COWPER.

duced experimentally and transmitted from one animal to another. And, while it is true that no cure-all for cancer exists, more advance has been made in the detailed knowledge of cancer during the last twenty-five years than in all previous medical history. Progress in the solution of the cancer problem is slow but constant, and the popular desire for a spectacular solution will probably never be satisfied.

The responsibility of the physician is rapidly becoming heavier and is two-fold: 1. The secret of successful treatment depends almost entirely on one thing—*early diagnosis*, and the result rests largely with the physician who first sees the patient. 2. The public is continually acquiring cancer facts and is demanding more. With this ever-increasing fund of information the potential cancer patient is turning to his doctor for that knowledge and counsel which he should rightfully expect. A doctor is occasionally heard to remark that he sees very few cancer patients and is not particularly interested in its treatment. He probably does not actually mean that, but sometimes if he were more interested and more alert he might “see” more cancer cases. Besides, the rapid accumulation of knowledge regarding the cause of cancer is opening up a large field in cancer prevention which should be an active part of any physician's practice.

A special study of cancer can well be recommended to anyone interested in medical science because it is an intensely fascinating subject and presents a panorama which is moving more rapidly than any other phase of medicine. It behooves every physician to acquaint himself or herself thoroughly with this subject and to stand ready to answer the questions which are sure to come in increasing numbers. He or she, in this way, fulfills the concept of the true physician, which includes the rôle of teacher and adviser. Rather than wait for some non-medical organization to undertake the education of the public in his community it would be more advantageous and more becoming to the members of the medical profession in that community to assume the responsibility of cancer education themselves. This can be done in many ways. An aggressive campaign can be instituted to spread cancer information in high schools, parent-teacher organizations, church societies, and clubs. Lay people can be told what cancer is, why an

early diagnosis is important, what some of the common danger signs are and what can be offered in treatment and prognosis. In this way much misinformation and many misapprehensions can be combated. Curability should be emphasized. Cancer quacks and advertised cancer cures should be warred against relentlessly. People should be taught that having cancer constitutes no social disgrace. The whole subject should be brought out into the open, viewed from all sides and discussed freely. The time-worn argument, which fortunately has almost completely died a natural death, that cancer information creates a “cancerphobia” is occasionally revived. Nothing could be more fallacious. People so inclined would probably be worrying about something else if it were not cancer. Over 125,000 people die of cancer in the United States each year but there are no deaths from “cancerphobia.”

In the past the hopelessness of cancer has been emphasized. We are all familiar with the late stages of the disease but few are familiar with its early stages. A far advanced cancer is a wonderful asset to a pathological museum and may be a fine object lesson to someone, but its diagnosis is of slight benefit to that particular patient. Our views on cancer need to be reversed. We should begin to focus our attention on its very beginning instead of its end stages. It has been said in exaggeration that the time to cure cancer is before it starts—a statement which contains a large kernel of truth.

If there is any doubt about the value of an educational campaign in cancer one has only to turn to the effectiveness of education in tuberculosis, a disease which has many things in common with cancer. Between 1900 and 1933 the death rate from tuberculosis in the United States has decreased from 201.2 to 59.5 per 100,000. Of course, this was not accomplished without the expenditure of large sums of money from both private and public sources and it must not be imagined that the cancer problem can be solved without expense. Many things must be done. A huge amount of investigative work is still necessary. Organized research is expensive. Members of the medical profession are frequently in an influential position. They are occasionally in a position to influence the direction in which a portion of



a fortune or an estate is to go. There is no more worthy outlet for philanthropy.

Cancer imposes many economic and social responsibilities on the profession. Unfortunately many cancer patients are destitute and there are others who could meet the cost of ordinary illness but not of cancer. Unless the erection of large government-administered cancer institutions is desired, it is necessary that the medical profession assume much of the social responsibility entailed.

A great opportunity with both interesting and profitable aspects beckons to the medical profession. Humanity can be richly served by preaching and practicing the doctrine of cancer prevention, early diagnosis, prompt treatment and by substituting intelligence and optimism for ignorance and unreasonable fear. Fight cancer with knowledge. Cancer education, cancer diagnosis and cancer treatment are problems to be dealt with by the medical profession.

#### Nonunion in Fracture of Shaft of Humerus: Report of Five Cases

James Warren Sever, Boston, is of the opinion that delayed union and nonunion occur more often in the middle third of the shaft of the humerus after transverse fracture than in any other long bone. Spiral fractures that involve this region may be slow to unite, but so far he has known of no nonunions, or pseudarthroses. Of the five cases that he reports, three occurred in his practice and two are the misfortunes of others. He believes that one should report failures as well as successes and that there must be some intrinsic cause for nonunion in fractures of the humerus that is not wholly understood. Trauma, from the accident itself, may so destroy the power of bone repair that union is delayed or prevented. Interference with the blood supply through the tearing of the nutrient artery may be another factor. Lack of adequate fixation, which is of the greatest importance, is another probable cause; and in the operative repair, primary internal as well as secondary external fixation is essential for a long period. However, it is practically impossible to immobilize the humerus completely in any type of external apparatus. In spite of an adequate consideration of all these factors, recurrent nonunion may, and does, occur in a certain percentage of cases. Lack of callus formation and interposition of tissue are often factors that must be considered. After his experience in the reported cases, the author believes that the only operation probably worth doing is that advocated by Campbell and Henderson; namely, the massive or onlay graft, followed by a sufficiently long period of fixation to ensure union and to carry one by the period of absorption and possible fracture of the graft. Even this operative procedure is, however, not infallible.—(*Journal A. M. A.*, Feb. 2, 1935.)

#### PRESIDENT'S NIGHT

The president's night in connection with the annual meeting of the Michigan State Medical Society is always an event of more than ordinary consequence. At the seventieth annual meeting of the Michigan State Medical Society held at the Sault, the president's address was read by Dr. Richard R. Smith. Dr. Smith's address has already appeared in the October number of this JOURNAL. Dr. Smith introduced his successor, Dr. Grover C. Penberthy, who made his address of acceptance.

Mr. President, Members of the State Medical Society, Ladies and Gentlemen:

It is a real pleasure for the Chippewa-Mackinac County Medical Society to have this opportunity of entertaining the members of the State Society at an Annual Meeting.

As you know, we have been trying for quite some time to convince you that the Soo was an excellent place for the State Meeting to be held. We want you to have a good time while you are here, and we assure you that we will do everything we can to make your visit a pleasant one.

To Doctor Smith, our president for the past year, we offer our congratulations for the successful management of the affairs of the State Society.

To Doctor Penberthy, our incoming president, we pledge our sincerest support wholeheartedly.

To Doctor Corbus, who for many years has been a valued officer of the State Society, and for the past year its secretary, we offer both our congratulations and thanks for the thorough and efficient manner in which he has arranged this meeting, and in general conducted the office of secretary. It is with sincere regret we see him retire to the ranks, but there we will still be blessed with his advice and counsel.

F. C. BANDY.

#### Dr. Penberthy's Address of Acceptance

Doctor Smith, Ladies, Members of the State Society and Guests:

The honor which has been conferred upon me by this Society is appreciated, and no one realizes more than myself, the responsibility that goes with the office of president. Being an officer can no longer be considered as occupying an honorary position. As your president I, therefore, ask your loyal support and guidance.

The history of the Society shows that I am following in the footsteps of distinguished gentlemen—leaders as well as good clinicians. This fact emphasizes the responsibility entrusted, to work with the other officers in supporting and maintaining the traditions of the past.

Doctor Smith has given us a picture of Michigan's past and present and the changes which have taken place in medical practice during the various historical stages of the state. The progress made in medicine stands out as in no other profession and one only needs to refer to the vital statistics to realize how fortunate we should feel living in this age. The United States Public Health Service reports for the year 1933, the lowest general death rate ever recorded for the nation. The pioneers in medicine in this state rank as outstanding leaders and as it has been said, the present high standard of practice reflects glory and honor to those who blazed the trail.

The present standard of practice and what is expected of the physician today requires a good academic and medical preparation, continued application to the study of medicine and an interest in the economic aspect of practice. One can no longer feel that, having completed the required curriculum

in the medical school and hospital, he or she will be satisfied to remain static. He cannot be as Osler once described a physician: "Once he was a modern, twenty years ago; but he crawled up the bank, and the stream of medical progress has left him there, but he does not know it." With the tempo set by business and living in an age where changes are rapidly taking place and many conventions are swept aside, we of necessity as a profession, must be awake to our collective responsibility.

To quote from an address delivered by Doctor VanEtten, now speaker of the house of delegates of the A. M. A., and a student of medical economics: "We struggle for employment or fall into the mass of those who cannot keep up with modern rhythm. From birth to death we all live by the clock. The physician rates no exception. The compelling pulse of progress beats also for him. If he fails he cannot eat, cannot pay his rent, his fuel bill, taxes, etc. If modern society rates him successful he must step faster and sleep less than others. He cannot be content with being on time, he must be ahead of time."

It is the ambition and desire of all to enjoy a feeling of security and realize from our efforts a just compensation. The physician in all communities has taken an active part in the civic "set-up" and will continue to contribute to the maintenance of and the up-lift of any social program. It is apparent, however, that with what he has contributed in the way of public health education, in the development of preventive and curative medicine, acting in all emergencies where medical science is needed and many other causes, he is not altogether appreciated by the people whom he serves. This fortunately does not apply to all communities nor is it general, as faith in the physician is still manifested. The family physician will always be the father confessor. The present attitude of the public is all a part of the unrest and the general educational program in which the physician has taken an active part. The challenge that has been thrust at organized medicine the past years will be met by the doctor who will give to the public the highest quality of service which he is capable of rendering.

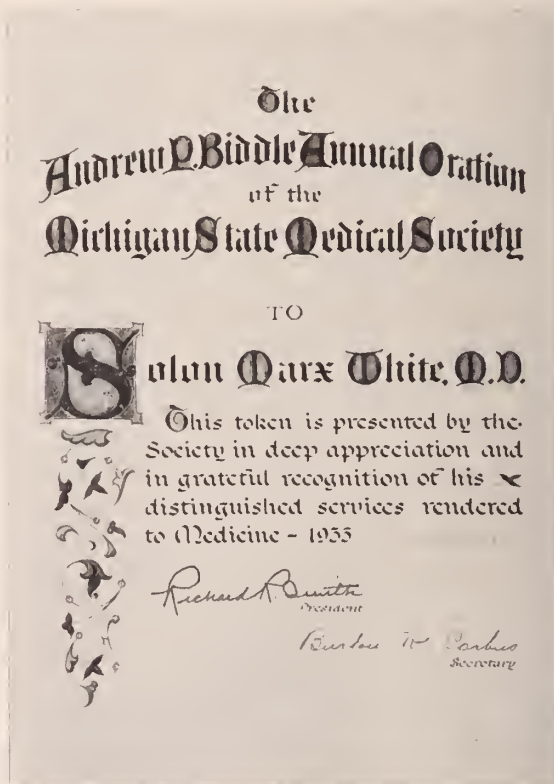
The problems that confront the professional groups today may appear out of proportion, but those who have gone before us had their problems, and it is a well known fact that history repeats itself. The interest of the thinking group has been aroused. This, combined with constructive, unified action, not founded on prejudice nor emotional reasoning, should assure us that the traditions and the educational program established will be continued for the welfare of the public and for us as a profession.

The interest shown by members of the profession of this state in these past years, to improve their clinical knowledge by attending the post-graduate courses given in the various centers, to say nothing of the clinical pathological conferences held weekly in many hospitals, is encouraging. The attendance last year far surpassed that of previous years and without a doubt this record will be enhanced in the coming year. What can be more reassuring and gratifying to the public than to know that the physician is conscious of his medical responsibilities and takes time out, many from a busy practice, to prepare himself to render the highest type of service?

\* \* \*

The scientific address of the evening was presented as the Andrew P. Biddle Foundation lecture. The subject was "The Present Status of the Hypertension Problem," given by Dr. Marx White of Minneapolis. This address is the leading article in the present number of the JOURNAL. Following the ad-

dress, Dr. White was presented with the first certificate of recognition issued by the society. An illustration of this splendidly decorated certificate is here presented. The original is not only in black and white but the initial letters are ornamented in colors.



#### President Smith's Introduction of Dr. White

During the past year at a meeting of the officers of some of our sections, a proposal was made to request the Council to inaugurate an oration, to be known as the Andrew P. Biddle Oration, to be given each year at our annual meeting by some outstanding member of the medical profession. The Council eagerly accepted the idea and this occasion is the result. The name of the oration may be changed from time to time to honor other distinguished members of our Michigan profession, but surely we could have selected no finer example of high ideals, and of what the profession stands for and seeks to follow than Andrew P. Biddle of Detroit. Dr. Biddle regrets very much his inability to be present at this meeting. He is to give the principal address at the Convocation to be held in connection with the opening exercises of the Medical School at Ann Arbor next Monday, at which time an honorary degree will be conferred upon him.

This year there has been selected to give this oration a man of marked distinction in medicine. Dr. White has all during his professional career been intimately associated with our finest institutions of learning, and has since 1919 been Professor of Medicine in the Minnesota Medical School. He was honored with the Presidency of the American College of Physicians in the year 1931-32. He is a great teacher, has been a generous contributor to medical literature, and is known for the soundness of his views and his ability to impart them by written word and speech. I have the honor, Dr. White, speaking for our society, to present to you this token of our appreciation of the services you



have rendered to medicine, and to introduce you to an audience of Michigan doctors and their friends.

Dr. White will speak on the "Status of the Hypertension Problem."



SOLON MARX WHITE, M.D.  
Minneapolis

Dr. White, who delivered the first Andrew P. Biddle lecture at Sault Ste. Marie during the seventieth annual meeting of the Michigan State Medical Society, is a native of Minnesota. He received his Bachelor of Science degree from the University of Illinois in 1896, and his M.D. from the Northwestern University Medical School in 1897. He served his internship, 1897-1898, in Cook County Hospital, Chicago. From 1898 to 1904, Dr. White was instructor in pathology and bacteriology in the University of Minnesota Medical School. He was assistant professor of medicine, 1904-1908; associate to 1915. He has been professor of medicine from 1915 to the present. He is one of the founders, and is director and chief of the department of medicine of the Nicollet Clinic. Dr. White served in France during the war as chief of medical service, Base Hospital, 26 Allerey, France. Dr. White is a member of a number of state and national associations having to do with specialized fields of medical science. He is, also, a contributor to the following journals: *The Journal of the American Medical Association*, *Journal-Lancet*, *Archives of Internal Medicine*, and *Annals of Internal Medicine*.

*I could never divide myself from any man upon the difference of an opinion, or be angry with his judgment for not agreeing with me in that from which perhaps within a few days I should dissent myself. . . . Where we desire to be informed, 'tis good to contest with men above ourselves; but to confirm and establish below our own, that the frequent spoils and victories over their reasons may settle in ourselves an esteem and confirmed Opinion of our own.*

SIR THOMAS BROWN in *Religio Medici*.

### Boondoggling With a Health Survey in New York

Among the peculiar projects proposed by the WPA in New York State is one that has aroused the wrath and ridicule of a good many people. It was proposed to survey the deaf children in the county of Monroe at an estimated cost of \$10,440, Monroe County to pay \$1,390. In opposition to the survey, the Subcommittee on Deafness and Hard of Hearing of the Public Health Committee of the Medical Society of the County of Monroe offers the statement that it is impossible to detect deaf children before the age of three years. The public and special schools take these children over at five years of age. Therefore, the whole project is limited to children between the ages of three and five years. There is good evidence that the county of Monroe contains sixty of these children. Evidence from the head of the bureau for handicapped children in the New York State Education Department at Albany accounts for only fourteen such children, exclusive of those already cared for. Hence it is proposed to spend \$10,440 to survey fourteen children. Furthermore, the survey proposes subsequent training of the deaf child but the project makes no provision for such training. If ever a project was developed to which the word boondoggling could be quite certainly applied, this project qualifies.—*Journal A. M. A.*, Nov. 16, 1935.

### Choice and Interpretation of Tests of Renal Efficiency

R. H. Freyberg, Ann Arbor, Mich. (*Journal A. M. A.*, Nov. 16, 1935), shows that the Lashmet-Newburgh concentration test is the only test which tends to measure the maximal function of the kidneys, and for this reason it is the most sensitive test of renal efficiency, often demonstrating impairment of function when other tests fail to do so. It does not require the quantitative collection of urine. Except when performed in the presence of loosely held edema, it always gives accurate results, and low specific gravities always indicate renal abnormality. The urea excreting function of the kidneys, as measured by the urea clearance test, becomes impaired in many cases after the concentrating ability is diminished, so that the urea clearance is a less sensitive test of renal efficiency. Throughout the greatest part of the range of kidney function, the urea clearance and concentrating ability in general parallel each other. When the renal damage is severe, the specific gravity becomes fixed at a low level and the urea clearance alone indicates progression of the renal lesion. Failure to obtain quantitatively the urine formed by the kidneys during the urea clearance test will falsify the results. Low urea clearance always indicates renal abnormality, except when the urine volume is less than 20 c.c. per hour. The two-hour phenolsulphonphthalein excretion is not a sensitive test of renal efficiency. Theoretically, the fifteen-minute dye excretion is a sensitive test of kidney function, but the obstacles to satisfactory execution of this test cause it to be unreliable. When a normal amount of dye (28 per cent or more) is excreted during the fifteen minutes after injection, one is safe in assuming that no appreciable renal damage exists. When low excretion is found, interpretation is hazardous. Normal blood urea and non-protein nitrogen may exist even when extensive renal damage is present, so that these values are poor indications of renal functional ability. Elevated blood urea, nonprotein nitrogen and urea ratio indicates only that the renal excretion of protein wastes is inefficient and does not necessarily indicate renal abnormality. In order to have the most accurate and complete information regarding functional ability of the kidneys, the concentrating ability and the urea clearance should be determined.

## DEPARTMENT OF SOCIETY ACTIVITY

C. T. Ekelund, M.D., Secretary

### THE NEW SECRETARIAT

Once again the Michigan State Medical Society is served by a new secretariat. Since Dr. Warnshuis' departure for the sunshine and heady climate of California, Dr. Corbus has ably handled the increasing responsibilities of the office. Fortunately, this burden is now divided; it has become physically impossible for a practicing physician to carry it all and still continue to practice his art and science. The brunt of the burden will now fall upon our new Executive Secretary, Mr. William J. Burns, who is already ensconced in the new offices of the Society at 2020 Olds Tower, Lansing. It devolves upon the present writer to give what enlightenment and direction he may to that very much enlightened and able director. We trust that the tolerance due any neophytes will be accorded us and we cordially request constructive criticism and suggestions.

In return we bring a quality of enthusiasm for organized medicine and pledge our assiduous labor.

---

### DUES INCREASED

Some years ago the dues of the Michigan State Medical Society were set at \$10.00 by the House of Delegates. By a special action of the Council they were reduced in 1933 to \$8.50 for reasons of economy. On November 13 the Executive Committee of the Council voted to restore the dues to the former \$10.00 figure for 1936. This action was necessitated by the increased expense incidental to the increased scope of activities authorized by the House of Delegates at the Soo in September.

---

### THE JOINT COMMITTEE ON HEALTH EDUCATION

A special meeting of the Joint Committee on Public Health Education was held at the Olds Hotel, Lansing, on November 7, 1935. Representatives present from the Michigan

State Medical Society were: Dr. Burton R. Corbus, Dr. H. E. Randall, Dr. H. A. Garber, Dr. C. T. Ekelund, and Mr. W. J. Burns.

Also present were representatives Dr. R. M. Olin, from Michigan State College; Dr. B. W. Carey, Medical Director of Children's Fund of Michigan; Miss Elba L. Morse, of Michigan State Nurses' Association; Miss Marjorie Delevan, Director of Health Education, State Department of Health; Miss Connolly, Director of Health Education, Detroit City Department of Health; Miss Edna B. Montgomerie, of Department of Public Instruction; Miss Louise Knapp, from the State Organization for Public Health Nursing; Mr. Claire Gates, Field Secretary for the Joint Committee, and Dr. W. D. Henderson, Secretary of Joint Committee and Director of the Extension Division of the University of Michigan.

A special meeting of the Joint Committee had been held on the 30th of July this year to discuss ways and means for enlarging the scope and coördinating the work of various health agencies throughout the state. Mr. Claire Gates was appointed Field Secretary by the Regents of the University and has conducted a rapid survey of the many efforts for public health education. His findings were presented to a special committee composed of Doctors Bruce, Sundwall and Henderson, which special committee submitted certain recommendations which were the specific agenda for this special meeting of the Joint Committee of November 7.

In the absence of the Chairman and Vice-Chairman, Dr. Corbus presided. It was recommended that the name of the Joint Committee on Health Education be changed to the Michigan Council on Health Education, largely because it was deemed too easy to confuse the old name with the Joint Committee on Public Health Education of the Michigan State Medical Society. Chairman Corbus pointed out, however, that there is no such Committee of the Michigan State Medical Society, but that those named are



representatives of the State Society to this Joint Committee on Public Health Education. After further discussion it was decided to retain the old and well recognized name of the Joint Committee on Public Health Education. Official action was taken to provide for two regular meetings of the Joint Committee, one in the fall to formulate plans for the winter's activities, and one in the spring to evaluate the results of that program.

Four standing committees were created to which to allocate the activities embraced by the program of the Joint Committee:

1. A Committee on Scientific Program, to select health subjects of greatest social significance and need, to outline and review the content of material on these subjects and to authoritatively edit such material to be presented.

2. On Health Education in Schools, to consider and advise as to the content and practice of health education in elementary and secondary schools and colleges throughout the state.

3. On Adult Health Education, to consider "what, how and where" health educational activities should be directed.

4. On Administration, which will administer the program, keep its records and in conjunction with the Executive Committee select speakers best qualified.

5. Executive Committee, to consist of the Chairman, Vice-Chairman and Secretary of the Joint Committee, the Chairmen of the four standing committees and the Field Secretary as ex-officio member.

The Joint Committee voted to renew the policy of payment of travelling expenses for speakers and for the Executive Committee in attendance at regular meetings.

Invitations are to be extended to the following agencies to officially appoint representatives as members of the Joint Committee on Public Health Education:

1. Michigan Education Association.
2. Michigan Congress of Parents and Teachers.
3. Michigan Federated Women's Clubs.
4. Michigan Association of School Physicians.
5. Michigan Association of Sanitariums.
6. Probate Judges' Association of Michigan.
7. Michigan Public Health Association.

## AFFLICTED CHILD CARE

Administration of medical care to children under the Afflicted Child Act is now a major problem facing our state government. A conference was called in the middle of October by Auditor General O'Hara and presided over by him. At this conference many Probate Judges were present, the Michigan Hospital Association was represented, former Attorney General Toy and Budget Director Thompson were there and the Executive Committee of the Michigan State Medical Society was also invited after Dr. McIntyre had requested that an invitation be extended them.

Out of that conference came the move to submit the problem to a joint committee to be made up of Probate Judges, Hospital Administrators and members of the Michigan State Medical Society. This committee met on Wednesday, October 30, at which time the medical group presented a plan embodying the following points:

1. That medical care is a basic necessity and the vendors thereof should render such service at the expense of the State, but only to children whose parents or guardians are unable to supply it.

2. Inasmuch as past administrative difficulty has arisen out of the unlimited liability of the State, the immediately obvious remedy is modification of existing rules and regulations of the Crippled Child Commission to provide two "filters," uniform throughout the state:

- (a) Economic: To limit commitments through more rigid social service investigation, under the direction of a committee in each county including the Probate Judge and representatives from the County Medical Society.

- (b) Medical: To further limit commitments by defining and excluding "procedures of election" from the provisions of the Act. A medical investigating committee was recommended similar to the one in operation during the past year in Bay City, to be given authority to accept or reject applicants on the basis of medical necessity and urgency.

3. If, as and when deficiency appropriations are voted as in the past to cover State expense under this Act, medical and hospital

bills should be given equal consideration. A special session of the Legislature was urged if funds are not allocated by the Administrative Board.

4. The 1933 Legislature had no figures upon which to base the necessary appropriation. The mounting cost has necessitated large deficiency bills, always an irksome procedure. It was recommended that a study be made to promote simplicity and more economical administration, not only in the care of crippled and afflicted children, but of afflicted adults as well. In this the Michigan State Medical Society offered its assistance and advice.

This plan was adopted by the Joint Committee and at the present time we are awaiting official action by the Crippled Children Commission on these recommendations. It is hoped that before going to press we may be able to report the action taken. In the meantime, it is stringently urged that each and every County Medical Society in the State take steps to prepare itself for the expected change in procedure for commitment of afflicted children. Specifically, it becomes the obligation of each County Society to cooperate with the Probate Judge and the Board of Supervisors to set up the necessary mechanism for adequate social service investigation and to jointly appoint a three man medical board through which all applicants for commitment must be cleared. If, as and when the necessary authorization is derived from the Crippled Children Commission, your Secretary will immediately notify all county presidents and secretaries.

The officers of your State Society and its Special Committee have bent every effort toward a solution of this perplexing problem. The fault did not lie entirely with the law nor with its administration, but very largely in the unlimited liability of the state inherent in the Act, and the Crippled Children's Society has been powerless to set up any adequate safeguards against unjustified and excessive commitments. The coöperation of the profession is necessary to provide these safeguards and the new arrangement will stand or fall directly in proportion to the quality and quantity of coöperation afforded in the various counties. In this new dispensation it will be very definitely up to the profession as to whether or not the plan succeeds.

## **SUMMARY OF BAY COUNTY PLAN FOR MEDICAL INVESTIGATION OF APPLICANTS FOR HOSPITALIZATION**

### **A. Basic Principles**

1. Elimination of all so-called county physicians or poor doctors.
2. Organization of a Five Man Board representing the several specialties of medicine and also representing, as far as possible, the several hospital staffs.
3. Free choice of physician and free choice of hospital by the patient.

### **B. Mechanism**

Applicants for commitment go first to the doctor of choice. If hospitalization is found necessary by this physician, forms are made out in duplicate, which summarize the history, the physical findings, the laboratory findings, the diagnosis, the previous treatment and the reason for hospitalization or proposed treatment. These forms are taken by the patient to the appropriate social service agency which certifies to the economic indigency of the patient. Such certification having been obtained the patient next presents himself with the blanks properly filled out and thus certified to the Five Man Board for medical examination. This Board bases its approval or denial for hospitalization upon the following three points:

1. The compatibility of the lesion with the patient's life.
2. Relief of actual pain and suffering.
3. The return of the patient to employable status through the correction or elimination of some defect or disability.

If hospitalization is denied on the basis of this examination the transaction ends there. If approved, the slips are so endorsed and the patient presents himself with one copy to the hospital of his choice. The other copy is retained by the examining board for its records.

Pathological reports are rendered to the Five Man Board and made a part of the record of that patient in that office.

Emergency conditions arising at night are reported within twenty-four hours to the appropriate social service



agency and to the Five Man Board, which subsequently examines the record, including the pathological report.

This Five Man Board should be given authority to examine the hospital record and to request progress reports, or to re-examine the patient in any case it deems advisable. It should also function in the capacity of a medical advisory committee in any question of apparent excessive fee.

No such examining board should be set up locally without the coöperation of the local Medical Society, the Probate Judges and duly authorized representatives of the county Board of Supervisors. Provision should also be made for adequate record keeping, to include on each application for commitment:

(a) A copy of the request for hospitalization, which includes the findings of the attending physician.

(b) The findings of the Five Man Board.

(c) Necessary portion of the hospital record, *e.g.*, operation or treatment record, progress notes, discharge note.

(d) Pathological report.

(e) Record of fees and hospital charges paid.

From such a record various tabulations and classifications of procedures and costs may be derived.

Provision is thus made:

1. For necessary hospital and medical care to all duly certified indigents.

2. Against uncontrolled and unlimited commitment.

### THAT TYPOGRAPHIC ERROR

The typographic error is a slippery thing and sly,  
You can hunt until you're dizzy, but it somehow  
will get by,  
Till the forms are off the presses it is strange how  
still it keeps;  
It shrinks down in a corner and it never stirs or  
peeps,  
That typographic error, much too small for human  
eyes,  
Till the ink is on the paper, when it grows to  
mountain size.  
The boss, he stares with horror, then he grabs his  
hair and groans;  
The copy reader drops his head upon his hands and  
moans—  
The remainder of the issue may be clean as clean  
can be,  
But that typographic error is the only thing you see.  
—*The Rainbow.*

### COUNCIL AND COMMITTEE MEETINGS

The Council—Sunday, September 22, 1935, Country Club, Sault Ste. Marie.

The Council—Tuesday, September 24, 1935, Ojibway Hotel, Sault Ste. Marie.

Executive Committee of The Council—Wednesday, October 9, 1935, Statler Hotel, Detroit.

Executive Committee of The Council—Friday, October 18, 1935, Olds Hotel, Lansing.

Special Committee on Crippled-Afflicted Child Laws—Friday, October 25, 1935, Elks Club, Flint.

Cancer Committee—Friday, November 1, 1935, Olds Hotel, Lansing.

Representatives on Joint Committee Public Health Education—Thursday, November 7, 1935, Olds Hotel, Lansing.

Legislative Committee—Thursday, November 7, 1935, Wayne County Medical Society Building, Detroit.

Public Relations Committee—Wednesday, November 13, 1935, Statler Hotel, Detroit.

Executive Committee of The Council—Wednesday, November 13, 1935, Statler Hotel, Detroit.

Economics Committee—Wednesday, November 20, 1935, Board Room, Olds Tower, Lansing.

Contact Committee with Crippled Children Commission—Wednesday and Thursday, November 20-21, 1935, Olds Hotel, Lansing.

Legislative Committee—Wednesday, December 4, 1935, Wayne County Medical Society Building, Detroit.

Joint Meeting of Executive Committee of The Council, and Crippled Children Commission—Wednesday, December 11, 1935, Statler Hotel, Detroit.

### MINUTES OF THE MEETING OF THE PUBLIC RELATIONS COMMITTEE

Wednesday, November 13, 1935  
Statler Hotel, Detroit

1. The meeting was called to order by Dr. L. F. Foster, Chairman, at 3:56 p. m. in the Woodward Room of the Statler Hotel, Detroit. Present were—Drs. L. F. Foster, F. B. Miner, Philip A. Riley, A. B. Wenger, A. H. Whittaker; also present: President Grover C. Penberthy, Chairman of Council Henry Cook, Secretary C. T. Ekelund, Editor James H. Dempster, Drs. H. A. Luce, J. M. Robb, and Executive Secretary Wm. J. Burns.

2. Dr. Foster brought up discussion of definite plans and details for integrating throughout the State various programs of the Michigan State Medical Society. He presented a diagram showing the functions of his Committee and of each Councilor. General discussion by all members of the Committee. Dr. Foster suggested this Committee could pass on the plans and activities of Bay, Jackson and other counties to the rest of the State for emulation. All discussants were of the opinion that this Committee could integrate all sociologic plans and other programs of the Michigan State Medical Society throughout the State, and keep in close touch with the Executive office so that follow-up work could be done.

It was recommended that a letter containing the purpose, plans and work of this Committee be sent to each Councilor and to each county medical society in the State, giving details and plan of action, by description and diagram.

The organization of this Committee as diagrammed by Dr. Foster was adopted as a tentative plan of operation, on motion of Dr. Miner, seconded by Drs. Riley and Whittaker, and carried unanimously.

Motion of Drs. Whittaker-Riley that the Public Relations Committee respectfully recommend to the Executive Committee of The Council that the seventeen Councilors be instructed to call Councilor Dis-

strict meetings, with representatives of the Public Relations Committee, to effect organizational work in their districts. Carried unanimously.

3. Regarding the integration of two "filter" systems in every county to aid efficient administration of the Crippled-Afflicted Child Laws: Dr. Penberthy read the Michigan State Medical Society statement presented to the Finance Committee of the State Administrative Board on October 30, 1935, and also the final agreement reached between (a) Probate Judge Association, the Michigan State Medical Society, the Michigan Hospital Association; and (b) the Finance Committee. Discussion by Dr. Cook: "We are now ready to integrate the plan throughout the State, and the Public Relations Committee can set up the organization." The Committee voted to refer this to each Councilor to take up at his Councilor District Meeting.

4. The Chair thanked all for their attendance, advice and proffers of future assistance, and adjourned the meeting at 6:05 p. m.

# **MINUTES OF THE MEETING OF THE EXECUTIVE COMMITTEE OF THE COUNCIL**

**Wednesday, November 13, 1935  
Statler Hotel, Detroit**

1. The Executive Committee of The Council of the Michigan State Medical Society convened in the Woodward Room, Statler Hotel, Detroit, at 7:05 p. m. Dr. Henry Cook, Chairman, called the meeting to order.

Present: Councilors Henry Cook, A. S. Brunk, H. R. Carstens, T. F. Heavenrich, and Frank E. Reeder. Also present were President Grover C. Penberthy, Secretary C. T. Ekelund, Editor James H. Dempster, Dr. L. F. Foster, Chairman of the Public Relations Committee, and other members of his Committee, Dr. Philip Riley, A. V. Wenger and A. H. Whittaker. Also Dr. H. B. Fenech, of the Crippled Children Commission; Drs. Frank Purcell and Frank Curtis of the Orthopedic Society, and Dr. E. R. Witwer of the X-ray Society, and Executive Secretary Wm. J. Burns.

Absent: Dr. C. E. Boys (excused).

2. The minutes of the meetings of October 9 and October 18 were approved as printed, on motion of Drs. Brunk-Carstens. Carried.

3. Unfinished Business:

(a) Dr. Penberthy reported on progress of arrangements for the 1936 Annual Meeting in Detroit, stating that invitations have been received from four prospective exhibit halls, each wishing to become the headquarters. No date could be decided until the dates of the annual meetings of certain national medical organizations could be ascertained. The Chair requested Dr. Ekelund and Mr. Burns to coöperate with Dr. Penberthy in planning all matters for the Annual Meeting.

(b) Secretary Ekelund reported on the membership and financial condition of the Society, which report was adopted, on motion of Heavenrich-Reeder and carried.

(c) With regard to dues for 1936: The Executive Committee gave much consideration to this question. Due to the added activities which the House of Delegates ordered the Michigan State Medical Society to undertake, the budget for 1936 will have to be revised upwards to meet the extra necessary expense. The Executive Committee of The Council was forced to forego its recent discount on annual dues and to reestablish the sum of ten dollars per member set by the House of Delegates.

(d) Dr. Carstens as Chairman of the Finance Committee discussed the budget for 1936, and was requested to present same to The Council at its January meeting. He presented the report of Ernst & Ernst on the financial condition of the State So-

cietiy as of October 25, 1935. Motion of Drs. Carstens-Reeder that said report be filed. Carried.

(e) No report had been received from Attorney Barbour relative to the status of litigation regarding practice of medicine by osteopaths. A letter from Dr. T. Y. Ho of Clinton County asking about consultations with osteopaths was read; it was the sense of the Executive Committee that this matter was adequately covered in a letter sent by Dr. B. R. Corbus to Dr. Ho.

(f) Report from the special committee (Drs. Cook, McIntyre and Penberthy) on contact with the Finance Committee of State Administrative Board in re medical care of crippled-afflicted children was presented by Dr. Cook. The Michigan State Medical Society's statement and the final agreement were presented, followed by general discussion. Motion of Drs. Carstens-Heavenrich that the Executive Committee record its approval of the action of the Special Committee and of its resolution, and that it proceed with the execution of the indicated steps and the proper dissemination of the facts. Carried unanimously.

Motion of Drs. Carstens-Heavenrich that this matter be referred to the Public Relations Committee of the Michigan State Medical Society to initiate all machinery, with the aid of the Councilors, to work out the practical details. Carried unanimously.

The representatives of the Michigan Orthopedic Society and of the Michigan Roentgen Ray Society felt that all these presentations to State officials should be made by the Michigan State Medical Society as a unified group. It was suggested that at the next meeting of the Crippled Children Commission, November 20 and 21, the Commission be informed that the State Society's filtration system is being organized and that the Society is ready to coöperate in all activity.

Secretary Ekelund spoke for a comprehensive survey of the costs and administration of the Crippled-Afflicted Child Laws for the last three years. The Executive Committee instructed that the President and Secretary contact the Committee on Economics of the Michigan State Medical Society regarding the advisability of studies of cost and administration of these Laws, as well as the SERA. With regard to the latter, Secretary Ekelund's written recommendations were referred to the Economics Committee.

4. The Public Relations Committee presented its plan of operation, through Chairman L. F. Foster, who explained the Committee's integration plan according to a diagram recommended by the Committee. The Public Relations Committee motion, adopted November 13, 1935, was read: "The Public Relations Committee respectfully recommends to the Executive Committee of the Council that the seventeen Councilors be instructed to call Councilor District meetings, with representatives of the Public Relations Committee, to effect organizational work in their districts." Full discussion. Motion of Drs. Heavenrich-Carstens that the Executive Committee adopt the program of the Public Relations Committee and instruct that such meetings be called. Carried unanimously. The Chair thanked the Public Relations Committee for its well considered plan and for attendance at this meeting. Dr. Whittaker spoke about the absolute necessity of informing the people concerning the good work the medical profession is doing. The members of the Public Relations Committee retired.

5. Secretary Ekelund outlined tentative plans for the 1936 Secretaries Conference: a full day session in Lansing, ending with a social function so that each secretary may become acquainted with all others. The program will include presentation of programs and plans successful in the various counties, for emulation by other counties. The time to be Sun-



day, January 26, 1936. The Executive Committee approved this general outline and instructed Dr. Ekelund to proceed with details.

6. Chairman Cook announced Committees of the Council:

(a) Publicity—Drs. A. S. Brunk, Chairman, H. H. Cummings, J. E. McIntyre.

(b) Finance—Drs. H. R. Carstens, Chairman, H. A. MacMullen and W. A. Manthel.

(c) County Societies—Drs. C. E. Boys, Chairman, V. H. Van Leuven and V. M. Moore.

7. (a) The Secretary reported that the unexpired portion of Dr. Corbus' Fidelity Bond had been assigned to him in the sum of \$10,000. Motion of Drs. Carstens-Brunk that the Executive Secretary and his assistant be bonded for \$5,000 each. Carried.

8. A request from Dr. Fred B. Minor for financial aid in the Survey of the Goitre Committee was referred to the Chairman of the Finance Committee, who was requested to make a report on same at the next meeting of the Executive Committee.

9. Regarding the recommendation that all Committees hold early meetings to work out the year's program for submission to the Executive Committee and the President: the Executive Secretary was instructed to write all Committee Chairmen who had held no meetings thus far, requesting that they outline their year's programs.

10. The question as to whether the SERA had been officially notified of action of the Michigan State Medical Society House of Delegates on the SERA survey of relief medicine in 10 counties in Michigan, was referred to the Committee on Economics, which shall report its proposed action to the Chairman of the Executive Committee.

11. The Executive Secretary brought up the provisions relating to health in the Social Security Act. After full discussion, motion was made by Drs. Carstens-Brunk that this matter be referred to the Preventive Medicine Committee for study and report at the next meeting of the Executive Committee. Carried unanimously. It was felt that the U. S. Public Health Service be invited to send a representative to meet with the Michigan State Medical Society for a full explanation of this legislation and impending activity.

12. Dr. John A. Wessinger of Ann Arbor was recommended to Affiliate Membership in the American Medical Association by election of the Executive Committee, motion of Drs. Heavenrich-Carstens and carried.

The meeting was adjourned at 11:50 p. m.

## MINUTES OF MEETING OF LEGISLATIVE COMMITTEE

Detroit, November 7, 1935

1. The meeting was called to order by Dr. H. H. Cummings, Chairman, at 7:15 p. m. in the Wayne County Medical Society Building. Those present were: Drs. Cummings, F. B. Burke, L. G. Christian, Henry Cook, L. J. Garipey, H. E. Perry and C. F. Snapp. Also present were President Grover C. Penberthy; the Editor, Dr. James H. Dempster, and Executive Secretary, Wm. J. Burns.

2. The chairman reviewed the work of last year's Legislative Committee, and called upon all present for informal discussion of the agenda at hand. Plans for the study of important health legislation were drawn up.

Motion of Drs. Garipey-Cook that a plan be presented to the Executive Committee of The Council on November 13, 1935, whereby each Councilor shall cooperate with the Public Relations Committee or some designated committee in each county in effecting organizational work in the district. Carried unanimously.

3. Motion of Drs. Garipey-Snapp that this Com-

mittee request the Secretary of the State Society to insert in his December Letter a request that each county medical society send in its ideas and advice on organizational matters to the Legislative Committee. Carried unanimously.

4. The Chair appointed the following Sub-Committees:

(a) To study model bill for efficient administration of afflicted and crippled persons' laws—Drs. Garipey, Christian and Cook.

(b) To study professional qualifications bill—Drs. Snapp and Garipey.

(c) To study problem of unauthorized practice of medicine—Drs. Burke and Garipey.

(d) To study integration of medicine—Drs. Burke and Perry. The Chair requested Mr. Burns to aid this Sub-Committee with the legal phases of the question.

(e) Contact Committee—Drs. Penberthy, Perry, Cook and Christian.

Dr. Cook suggested that the confidence of all is forthcoming when we show that our motive is protection of the public and our actions are always to make for better medical care of the people.

5. A letter from the Secretary of the WCMS Policy Committee was read asking "What constitutes from the legal point of view medical practice in the State of Michigan?" Motion of Drs. Christian-Cook that the Michigan State Board of Registration in Medicine be requested to ask the Attorney General for an opinion on this matter, and to refer it to the Wayne County Medical Society. Carried unanimously.

6. The meeting was adjourned at 9:45 p. m. The Chair announced that the next meeting would be held December 4, and thanked all members for their attendance and advice at this session.

## MINUTES OF MEETING OF THE CANCER COMMITTEE

Friday, November 1, 1935

Olds Hotel, Lansing, Michigan

All the members of the Cancer Committee were present together with the following members of the sub-committee: Drs. Chas. E. Boys, Kalamazoo; Claude V. Russell, Lansing; Arthur Kretchmar, Flint; Leland E. Holly, Muskegon. In addition to those present, Dr. J. T. Sample of Saginaw and R. L. Mustard of Battle Creek have accepted appointments to the sub-committee.

The following guests were present: Dr. H. W. Yates, Detroit, representing the American Society for the Control of Cancer; Dr. J. H. Dempster, Editor of the JOURNAL; and Clare Gates, Ann Arbor, Field Secretary of the Joint Committee on Public Health Education.

The order of business was as follows:

### 1. *Duties of the Sub-Committee*

The purpose of appointing the sub-committee was to have men in certain strategic points throughout Michigan for the purpose of carrying on lay cancer education along the lines established by Dr. H. J. Vandenberg in and about Grand Rapids. All members of the sub-committee expressed willingness to undertake this work. Dr. Vandenberg agreed to present the lantern slides used by him, together with an outline of the talk which he has been using, at the next committee meeting to be held in about one month. It is the wish of the committee that six duplicate sets of Dr. Vandenberg's slides be prepared for the sub-committee and it was suggested that the unexpended balance of about \$120 of the appropriation voted for newspaper publicity be used to defray the expense involved. It is the desire of the Committee that additional sub-committee members be appointed to represent portions of the State not now represented. Mr. Gates offered the services of the Joint Committee in arranging speaking pro-

grams in schools, clubs, societies, etc., for the members of the committee.

### 2. Newspaper Publicity

Dr. Weller rendered a report setting forth that the twenty-six newspaper articles had been released and that this part of the committee's program was complete. Dr. Slemons promised that at the next committee meeting he would be prepared to give a clipping bureau report to show to what extent these articles had been used by the 470 state newspapers that had received them. Dr. Weller's financial report showed that an unexpended balance of about \$120 remained in this account and, as has been previously stated, it is the desire of the committee to use this amount for preparation of lantern slides. A few months ago the *Detroit News* agreed to run a series of five consecutive daily articles of about one column length sometime this fall and Dr. Brines agreed to contact the editor during the next week.

In connection with the newspaper articles it was the expressed desire of the sub-committee members that they receive copies of these articles to follow in their cancer talks. No copies are available and Dr. Evans suggested that it might be possible for the Detroit Health Department to undertake the preparation of some extra copies. A discussion arose then as to the advisability of preparing a large number of these copies to distribute to the laity, particularly to the audiences to which cancer talks were given. This matter has been taken under consideration and the matter of expense is now being investigated.

### 3. Educational Campaign Within the Profession

The report of the cancer survey made in the last few months by Dr. F. L. Rector, representative of the American Society for the Control of Cancer, is to be published serially in the next few issues of the JOURNAL. Dr. Dempster also kindly agreed to publish a series of six articles of about three columns each to contain cancer information directed to the profession. It was decided that at the next meeting of the Cancer Committee, when all the members have had an opportunity to familiarize themselves with the survey report, a recommendation should be read in order that the Committee could take such action as was deemed advisable.

Respectfully submitted,

O. A. BRINES, M.D., *Chairman.*

### Convalescent Scarlet Fever Serum: Its Prophylactic and Therapeutic Value

Archibald L. Hoyne, Sidney O. Levinson and William Thalhimier, Chicago (*Journal A. M. A.*, Sept. 7, 1935), found that of 862 home contacts who gave no history of scarlet fever and were passively immunized with convalescent scarlet fever serum, scarlet fever did not develop in 97.2 per cent. Of eighty-three Dick-positive hospital contacts immunized with convalescent scarlet fever serum, scarlet fever did not develop in 95 per cent. In immunized contacts in whom scarlet fever developed, it was usually in a modified form, believed to have been produced by partial immunization and resultant sero-attenuation. Convalescent fever serum in adequate therapeutic doses administered early may abort the disease and usually causes recession of fever, diminution of toxemia and angina, and fading of the rash and appreciably shortens the period of illness. Convalescent scarlet fever serum, directly or indirectly, either prevented the development of complications or reduced the frequency of their occurrence. The influence of serum on late and complicated cases was less marked but frequently seemed beneficial. By reducing the severity of the disease and the incidence of complications, the mortality rate was definitely diminished. No unfavorable reactions, serum sickness, sensitization or anaphylactic shock were encountered with the use of human serum.

## COUNTY SOCIETIES

### ST. CLAIR COUNTY

Saint Clair County Medical Society held its first meeting of the autumn on Tuesday, October 1, 1935, at the Harrington Hotel, Port Huron, Michigan; sixteen members were present. The Society listened to reports from Dr. T. F. Heavenrich, Councillor of the Seventh District, and from Dr. A. L. Callery, Delegate to the State Society, with regard to the Soo meeting and what transpired there. Dr. D. W. Patterson made a committee report with regard to the working of the County Emergency Welfare Medical Relief. Doctor Waters, president of the Society, reported the free medical examination of about three hundred and fifty kindergarten pupils by six members of the Society in coöperation with the School Board. A motion was adopted to the effect that members of the Society perform free physical examination of 1100 to 1300 pupils of the public schools of Port Huron to discover defects likely to result in accidents or injuries while engaged in work in the gymnasium.

On Tuesday, October 15, 1935, the Society met as usual at the Harrington Hotel, Port Huron, Mich. Seventeen members were present. Dr. C. C. Slemons addressed the Society on "The Full Time County Health Unit." After the address a round table discussion was held and upon the adoption of a resolution to the effect, the president appointed a committee of four to gather data and make a study of the plan for the Society.

On Tuesday, November 5, 1935, a meeting was held at the usual place of meeting with twenty-four members and two guests, Drs. W. D. Lane of Romeo and H. H. Learmont of Crosswell, present. Dr. W. J. Cassidy of Detroit talked on the subject "Ectopic Pregnancy." The speaker presented his subject in a fine informal manner and at its conclusion a full discussion took place.

A regular meeting of Saint Clair County Medical Society was held at the Harrington Hotel, Port Huron, Michigan, Tuesday, November 19, 1935. Nineteen members and three guests were present.

Dr. Dixon, Superintendent of the Michigan Home and Training School at Lapeer, addressed the Society on the general subject of Epilepsy. To nearly all of those present the remarks of Dr. Dixon were along lines entirely new and represented the most recent theories with regard to the condition. Dr. Dixon stated that he would prefer to limit the term "epilepsy" to the small number of cases for which no organic or functional basis could be discovered. His ideas with regard to the presence of a "convulsive center" in the brain as well as the idea of a "lowered convulsive threshold" struck his audience as entirely logical. The discovery of "pre-epileptic children" by a corps of trained psychologists working in our schools just as do physical educationists, as suggested by Dr. Dixon, will be the next step in the prevention, in some cases, of adult epilepsy. A full discussion by many of those present followed the remarks of Dr. Dixon and the Society rendered a vote of thanks to the speaker for his presentation of the subject.

At the conclusion of the scientific program the Society went into executive business session.

GEORGE M. KESL, *Secretary-Treasurer.*



## WOMAN'S AUXILIARY

MRS. A. M. GIDDINGS, President, 22 Riverview Ave.,  
Battle Creek

MRS. KENNETH LOWE, Secretary-Treasurer, 107 Elizabeth St., Battle Creek

To County Presidents and Members:  
Greetings!

Our new year in auxiliary work is well on its way, with twelve active county units enrolled. Some of these units include more than one county, so a larger part of the state is organized than appears on the surface. The state organization work has a different set-up this year than heretofore. The vice president of the auxiliary is now chairman of the organization committee, and has three or four members from different parts of the state as assistants. We are hopeful that during this year more county units will be brought into the organization, so that a healthy growth may be recorded at the annual national convention.

Our standing committees are all in the hands of capable chairmen—some new this year, and some who have served before. A list of these will be found in this number of the JOURNAL. Every chairman is anxious to be in active contact with the member having charge of her particular work in each county, and she will be glad to answer questions or give suggestions in her line of activity at any time.

It is a recognized fact that each county has its own local problems of interest to our organization, and the importance of these local demands must not be minimized. However, we must keep in mind that these activities can be undertaken only under the direction, or at least with the approval, of the Medical Society. So, it is necessary that there be close cooperation with the officers of the local Medical Society.

Besides these local projects there is the National program to be carried out. Our state organization is important in that it is the contact point between the national and the local associations; and acts as an agent in the unification of effort which has immense potential, as well as actual, value. A thing is greater than any of its parts, and the efficacy of our national organization depends on the power of its divisions—state and county.

One of the main objectives of the society as a whole is the promotion of a sane idea regarding health and medical matters; and it is through the sale of *Hygeia* subscriptions that we feel that this can best be accomplished. I have read letters from rural school teachers expressing the hope that *Hygeia* would be available another year for their use, as it had proved of so much benefit, and had been so profitable a source of material along different lines of the school program. Dr. Gorsline pointed out, in his talk before our convention at Sault Ste. Marie, that we cannot measure the importance of instilling in our boys and girls a proper attitude toward health problems and the medical profession. We have much of quackery and misunderstanding to combat, and *Hygeia* is our valuable instrument. The *Hygeia* program should really be begun in the spring of the year, so that, with the opening of schools in September, the subscriptions would all be taken care of; and every schoolroom, especially in rural communities, would have the magazine included in its equipment.

Just a word about the work of the Press and Publicity department. It is my desire that the pages allotted to us in the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY be utilized to the fullest extent; to promote interest in our organization, and

to serve as a means of communication between the state and county units. It will save much correspondence if it does so serve. I would like to have the monthly letters from your president, as published, read at the local meetings. Different departments of the work will be emphasized in the succeeding months.

The Press chairman is eager to have material suitable for presentation in these pages forwarded to her. Let us emphasize this matter to the extent that every member, every month, will look forward with pleasant anticipation to receiving and reading the State Journal. Ask your husband to have the address changed if he cannot remember to bring the current number home to you.

Looking forward to a pleasant and profitable year,  
I am

Sincerely yours,

(Mrs. A. M.) LEAH M. GIDDINGS, *President*.

\* \* \*

Standing committee chairmen appointed by Mrs. Giddings, president of the Woman's Auxiliary to the Michigan State Medical Society:

*Program*—Mrs. G. C. Hicks, 1009 Wildwood Ave., Jackson.

*Public Relations*—Mrs. Ledru O. Geib, 1411 Berkshire Rd., Detroit.

*Press and Publicity*—Mrs. L. C. Harvie, 341 Brockway Place, Saginaw.

*Organization*—Mrs. J. A. McLandress, 715 Court St., Saginaw.

*Legislation*—Mrs. L. G. Christian, 606 Townsend St., Lansing.

*Revision*—Mrs. J. H. Dempster, 5761 Stanton Ave., Detroit.

*Hygeia*—Mrs. Carl Snapp, 980 Plymouth Rd. S. E., Grand Rapids.

*Historian*—Mrs. J. Earl McIntyre, 600 Grand Ave. S., Lansing.

\* \* \*

*To All County Presidents:* Please see that a complete list of officers and committee chairmen is sent to the State President at once. We wish these for publication in the January issue of the JOURNAL.

\* \* \*

The following Resolutions on the death of Dr. Caroline Bartlett Crane were adopted at the state meeting held at Sault Ste. Marie in September:

"We, the Woman's Auxiliary to the Michigan State Medical Society, submit to the all-wise Providence in the final summons of our valued Honorary President and organizer, Dr. Caroline Bartlett Crane, and,

WHEREAS, we too have suffered the never to be regained loss of her wise counsel and guidance, therefore be it

RESOLVED that we deplore the loss of Dr. Caroline Bartlett Crane with deep feelings of regret softened only by the confident hope that her spirit is carried on in all the worthy causes in which she was interested, and be it further

RESOLVED that our sincere condolence and our earnest sympathy be extended to Dr. A. W. Crane and family, and that a copy of this resolution be sent to the Michigan State Medical JOURNAL and one be spread upon the records of our Auxiliary.

ETHEL F. BENNETT  
CHARLOTTE E. ANDREWS  
WILMA G. DOYLE

\* \* \*

### County News

*Eaton County.*—The Eaton County Auxiliary reports two very enjoyable and enthusiastic meetings this Fall. The first was held on September 19, when twelve members dined at the Charlotte Cafe, Charlotte. Following the dinner the members met at the home of Mrs. J. W. Davis, where a social hour was enjoyed after a short business meeting conducted by the new president, Mrs. Thos. Wilensky.

Mrs. J. W. Davis was again hostess to the Eaton County Auxiliary on October 24, when twelve mem-

bers met for a pot-luck dinner. Mrs. Wilensky reported on the recent convention of the Michigan Federation of Women's Clubs, which was held in Ann Arbor. Mrs. C. D. Huber discussed current events and Mr. Nielsen, of the Nielsen Studio, in Charlotte, presented and explained the moving pictures taken by himself during the summer when he and Mrs. Nielsen enjoyed an extensive trip abroad.

**Kalamazoo County.**—The Woman's Auxiliary to the Kalamazoo Academy of Medicine opened its year's activities with a coöperative dinner, October 21, at the home of Mrs. Ralph Shook. Covers were placed for thirty-three members.

A report of the State Auxiliary convention held in September at Sault Ste. Marie, Michigan, was given by the delegate, Mrs. C. L. Bennett, at the business meeting which followed the dinner. Committee chairmen for the year are as follows:

*Program*.....Mrs. Rush McNair  
*Legislative*.....Mrs. S. E. Shackleton  
*Hygeia*.....Mrs. S. E. Andrews  
*Calling*.....Mrs. H. A. Rigterink  
*Press*.....Mrs. F. M. Doyle  
*Membership*.....Mrs. John R. MacGregor  
*Public Relations*.....Mrs. Walter Den Bleyker

The *resolutions* passed by the Board of Education in appreciation of our purchase of the Fair-child Hearing Aid follow:

"The Board of Education acknowledged with deep appreciation the generous interest of the wives of the members of the Kalamazoo Academy of Medicine and of the Child Conservation Circle in the work and activity of the Hard of Hearing room in the Kalamazoo Public Schools manifested so liberally by the contribution that has made possible the purchase of a device for instructional and hearing purposes. In expressing its gratitude the Board wishes the donors to know that their interest, liberality and thoughtfulness, their concern of those less fortunate and their endorsement of the special education program of the public schools is both gratifying and reassuring. In accepting the gift, the Board pledges its efforts in the further advancement of the rehabilitation of the handicapped child."

**Oakland County.**—On Friday, September 27, eighteen members of the Oakland County Auxiliary met for luncheon at the Pontiac General Hospital. Mrs. Frank Gerls, president, named the following committee chairmen:

*Social*.....Mrs. L. G. Rowley  
*Program*.....Mrs. Vernon C. Abbott  
*Legislative*.....Mrs. Harry B. Yoh  
*Membership*.....Mrs. Leon F. Cobb  
*Notification*.....Mrs. A. V. Murtha  
*Publicity*.....Mrs. E. V. Howlett  
*Hygeia*.....Mrs. T. W. K. Hume  
*Sympathy*.....Mrs. R. G. Tuck

The afternoon was spent in preparing dressings for the hospital.

Mrs. Robert H. Baker, 57 Cherokee Road, Pontiac, was a gracious hostess to the Oakland County Auxiliary at a coöperative luncheon. Twenty-four members attended. During the afternoon towels were hemmed for the Pontiac General Hospital.

Mrs. Guy L. Kiefer, of Lansing, Honorary State President and past State Chairman of Organization, was present and spoke on the many different phases of the work as she had found them in the various localities, making interesting suggestions for future work.

Mrs. Harry B. Weinburgh, president of the Ing-ham Auxiliary, also addressed the ladies, telling them of the interests of her group.

**Saginaw County.**—Dr. and Mrs. Arthur E. Leitch were hosts to more than eighty-five members of the Saginaw County Medical Society and its Woman's Auxiliary at a delightful social hour following the business meetings of the two organizations Tuesday evening, October 29.

Members of the Medical Society held their meeting at the Shrine Temple and later joined their wives, who had held their regular monthly meeting at the Leitch home.

Miss Josephine Ainsworth, general secretary of the Y.W.C.A., addressed the Auxiliary on "The Health Program at the 'Y'." She explained the various health education classes and examinations and discussed the programs worked out to fit the needs of all groups. She also told of the consultation service, which helps to analyze various situations which arise among the girls.

Mrs. Robert Jaenichen reported on the state convention recently held at the "Soo."

An attractive arrangement of yellow and rust chrysanthemums in a crystal bowl and yellow tapers in crystal holders centered the table at which refreshments were served during the social hour. Mrs. William J. O'Reilly and Mrs. Ralph S. Jiroch poured. House prizes were drawn by Dr. H. M. Bishop and Mrs. Stuart Yntema.

### Wayne County

A regular meeting of the Woman's Auxiliary to the Wayne County Medical Society was held November 8, at Eloise Hospital, where members were the guests of Mrs. Thomas K. Gruber, wife of the superintendent, who was assisted by Mrs. Leslie T. Henderson, Mrs. Warren L. Hulse, Mrs. Herman F. Albrecht and Mrs. V. P. Johnson.

After a delicious complimentary luncheon, a short business session was held, during which Dr. Gruber, superintendent of the hospital and president-elect of the Wayne County Medical Society, discussed Eloise in its various phases. The members and guests were then conducted on a tour of the buildings and all were deeply impressed by the care and cleanliness existing in an institution which comprises more than 8,000 inmates.

One of the most worthwhile undertakings of the Woman's Medical Auxiliary is the annual series of free lectures arranged by Mrs. J. Milton Robb and Mrs. Arthur B. McGraw, which have popular appeal and are open to the public.

"Men, Medicine and Mankind" is the theme for this year and the series most auspiciously opened November 18, with a talk by Mr. Malcolm Bingay, managing editor of the *Detroit Free Press* and an honorary member of the Wayne County Medical Society. He discussed "Sir Ronald Ross and Malaria," describing a personal interview he had in England with this unsung hero. It was interesting to note that several doctors also were attracted to this meeting, thus necessarily being absent from a regular meeting of their own society.

On December 16, Dr. Charles Godwin Jennings has as his subject, "William Budd and Typhoid Fever," to be followed in January by Dr. Harold Mack on "Oliver Wendell Holmes, M.D., and Puerperal Fever."

(MRS. MILTON A.) WINOGENE E. DARLING,  
*Press Chairman.*



## OBITUARY

### J. W. Cunningham, M.D.

Dr. Cunningham passed away September 1, 1935, at St. Mary's Hospital, Detroit, after an illness of two months. He was born in Aldborough, Ontario, June 14, 1880, and came to Detroit when he was seventeen, and received his M.D. degree from the Detroit College of Medicine at the age of twenty-one. Following his internship at St. Mar's Hospital, he practiced for three years in Sault Ste. Marie before returning to Detroit. He practiced in this city twenty-nine years.

He was a member of the Executive Board of St. Mary's Hospital, a Fellow of the American Medical Association, a member of the Michigan State Medical Society and the Wayne County Medical Society.

Dr. Cunningham is survived by his widow, Margaret Gertrude Holihan Cunningham; a son, James W., Jr.; and a daughter, Maureen.

### George Gesner, M.D.

Dr. George Gesner of Marshall, Michigan, died suddenly at his home on October 27, after making a professional call. Dr. Gesner was a native of Ontario, having received his preliminary education at Ridgeway High School. He came to Detroit where he pursued a course in medicine at the Detroit College of Medicine. Dr. Gesner was a much esteemed citizen of Marshall, where he took an active part in civic affairs. He was a member of the Board of Education, also a member of the Calhoun County, Michigan State, and American Medical Association.

### Christopher G. Lehman, M.D.

Dr. Lehman died September 27, 1935, following a short illness. He was born January 12, 1872, and attended the German and public schools, Brown's Business University and Adrian College at Adrian. He then spent four years at the Michigan College of Medicine and Surgery in Detroit and was graduated in 1901. Later Dr. Lehmann took a post-graduate course at Rush Medical College in Chicago. He practiced several years in Palmyra, Michigan, before coming to Detroit, where he was in practice for thirty years.

He is survived by his widow, Louise, and four daughters, Mrs. Gladys Bumpus, Ruth, Evelyn and Bertine.

### Cornelius Van Zwaluwenburg, M.D.

Anno 1885 upon his graduation from the medical department of the University of Michigan in his twenty-third year, Doctor Van Zwaluwenburg began the practice of medicine in the city of Kalamazoo.

As a student he had a high record. One day in his freshman year he wandered into the amphitheatre in the hour of the professor of clinical surgery and the seniors. The professor asked the name of an anatomical structure in the ankle. None could answer. "You tell them," said the professor, pointing at Van Zwaluwenburg. And Van Zwaluwenburg did as asked.

In the fifteen years of Doctor Van Zwaluwenburg's practice in Kalamazoo the world witnessed a greater advance in medicine and surgery than in all the preceding century. Van Swaluwenburg realized this and determined that by merit he would march with the front ranks.

He was equally interested in medicine and surgery. His operative technic was neat and sure and masterly. He was the first Kalamazoo surgeon to successfully resect the cecum, the gastric pylorus and the superior maxilla.

He served the Kalamazoo Academy of Medicine in all its official activities. He was one of the founders of the hospital now known as the Bronson Methodist.

Van Zwaluwenburg was always questioning medical theories, old and new. He accepted none until he had found the proof.

In January, 1900, he moved to California where he was soon recognized as one of the ablest of the profession in the state.

The same kind clairvoyant Providence that sent blindness to Milton, Bunyan to prison and deafness to Edison, sent Van Zwaluwenburg to bed by disease and accident for two long times. There through the long lone days and the longer lonesome night, Van Zwaluwenburg "sought out and set in order" the solution of many of the problems that had troubled him through all the years of his professional services.

I will mention but two; in 1931 he published "Hydraulic Vicious Circles as Develops in Acute Appendicitis." Thus answering his own question of forty years "what causes death in appendicitis?"

Then he announced the cause, cure and prevention of death in "Heat Stroke" and "Sun Stroke." Can anyone compute the lives thus to be saved in the steel mills of the Garys and Ruhrs, the Death Valleys and Saharas the world over.

Doctor Van Zwaluwenburg died July 23, 1935.

"Bold, cautious, true, and my loving comrade."

RUSH MCNAIR in the *Bulletin of the Kalamazoo Academy of Medicine.*

Dr. McNair writes us:

"Dr. Cornelius Van Zwaluwenburg was one of three brothers distinguished in Michigan Medicine. One brother, until his death a few years ago, was at the head of the X-ray Department, University of Michigan.

## CORRESPONDENCE

### A NEW METHOD OF RESUSCITATION FROM DEEP ANESTHESIA (COLLAPSE)

EDITOR JOURNAL MICHIGAN STATE MEDICAL SOCIETY:

In reviewing the subject of resuscitation of patients who have collapsed from deep anesthesia, I find there are many remedies, nearly all of which are useless when one is confronted with a real emergency. When breathing has completely ceased, not from holding the breath, but by loss of power to breathe, we welcome anything which will be of real service. The pulmotor, if present, is generally useless because it pumps air into the stomach instead of into the lungs. Hypodermics of the various remedies practically always are useless because the patient cannot live long enough without oxygen, for those remedies to act. Carbon dioxide and oxygen are for the patient who is still breathing. The purpose of this paper is not to discuss that type of patient but one who has ceased to breathe. Dilating the rectum is useless, because if a real emergency exists the rectum is already dilated.

In order to select a remedy, we must consider the cause. When a general relaxation takes place as the result of too deep anesthesia, the trachea and lungs collapse. The muscles of respiration can cope no

longer with the atmospheric pressure. This we must counteract and do so quickly if we are to save the patient. If the heart is still beating, there is still hope.

Two like cases came under my observation recently. One, a boy seven years old, was given ether for the removal of piece of a needle from his arm, when he suddenly collapsed. The breathing ceased. The rectum automatically dilated. The pupils were dilated. Artificial respiration was resorted to, but to no avail. We had seemingly done everything possible when it suddenly occurred to me, I could and must get air into his lungs somehow. While my assistant continued to hold out the tongue, I seized a metal male catheter, and inserted it into the trachea, using my finger as a guide. The lungs filled to capacity. The atmospheric pressure was overcome just as suddenly as it had become the master. Instantly there was regular breathing. The patient was out of danger.

There is a time when the lungs and trachea have collapsed that the atmospheric pressure is the greatest hindrance to recovery. If this can be overcome before the heart ceases to beat the patient will recover. The curve of the catheter is so shaped as to pass easily. One should always have one convenient when giving anesthetics.

No person should give anesthetics unless capable of passing this instrument into the trachea if need be.

HUGH HARRISON.

Detroit, November 18, 1935.

## R. B. SMITH MEMORIAL HOSPITAL, ALMA

The R. B. Smith Memorial Hospital, a community project in Alma and Gratiot County, celebrated its first birthday in October, 1935. The hospital building was a memorial gift to the community by Mrs. Inez Smith, widow of the late Dr. Rayburn B. Smith, otolaryngologist and ophthalmologist, who died in 1932 of typhoid fever. The building was formerly the residence of A. W. Wright, a lumber pioneer, and is of Vermont granite, resembling the Whitney home which now houses the Wayne County Medical Society. The interior finish varies from finely polished mahogany to cherry and curly maple. There are seven wards and private rooms of twenty-five beds, besides a four bassinet nursery. Prior to presentation, the building had been appraised at \$105,000.

As the result of Mrs. Smith's gift, a community drive was conducted in the spring of 1934, to equip and endow the building. The Women's Auxiliary during the year furnished curtains, made dressings, operating and patients' gowns and equipped the kitchen. The Junior Auxiliary raised funds to fully equip the nursery. Improvements for the second year will include a doctor's lounge and library.

The hospital opened for work October 4, 1934, with Dr. B. C. Hall, Pompeii, chief of staff; Miss Floy G. Loudenslager, R.N., formerly night supervisor at the University Hospital, as superintendent, and a corps of graduate nurses.

The first year, three hundred thirteen patients



With the courtesy of the *Detroit News*

(Top row) GROVER C. PENBERTHY (25), J. M. ROBB (27), F. C. WARNSHUIS (33), CARL F. MOLL (36), L. J. HIRSCHMAN (36).

(Bottom row) H. E. RANDALL (38), GUY CONNOR (34), ANGUS McLEAN (50), ANDREW P. BIDDLE (50).

No, the figures in brackets do not mean the ages of the various doctors. The figures indicate the number of years each has practiced medicine in this state. Seven of them are past presidents. One (Dr. Penberthy) is the present president of the society. Dr. Warnshuis is now secretary of the California State Medical Association, following twenty-one years as secretary of the Michigan State Medical Society. The occasion of the above photograph was a dinner given in honor of Dr. Warnshuis during his recent visit and address before the Wayne County Medical Society on the evening of November 11.



were admitted. One hundred twenty-five major surgical operations were performed; forty-five babies born; nineteen deaths occurred, with three autopsies performed. At a cost of twelve cents plus per

Clinical Pathology; H. B. Lehner (D.D.S.), Alma, Dental and Oral Surgery; A. R. Moon, Saginaw, Obstetrics and Gynecology; N. F. McClinton, Saginaw, Urology.



SMITH MEMORIAL HOSPITAL, ALMA, MICHIGAN

meal, 14,241 meals were served. This low cost was possible through organizational and individual contributions of canned foods and vegetables during the year.

The hospital is entirely free from debt. The first year's operating profit was \$2,112.40.

Monthly staff meetings are held. In conjunction with the January meeting, the first annual Clinic Day was sponsored, with the following program:

- 3:00 P.M. Diagnostic Clinic, Doctor Wm. S. O'Donnell, pediatrician, Detroit.
- 6:30 P.M. Dinner.
- 7:30 P.M. Scientific program. Doctor Grover C. Penberthy, Detroit. Subject: "Surgery of childhood." Motion picture, "Tannic acid treatment of burns."

The Staff personnel comprises: Superintendent, Mrs. Florence Thompson, R.N., formerly in charge of the Hayes-Green Memorial Hospital, Charlotte, Michigan.

Active staff—Dr. B. C. Hall, Pompeii, Chief of Staff; Drs. A. L. Aldrich, Ithaca; W. E. Barstow, St. Louis; M. J. Budge, Ithaca; C. E. Burt, Ithaca; W. M. Drake, Breckenridge; C. F. DuBois, Alma; R. W. Fuller, Crystal; H. H. Gay, St. Louis; B. J. Graham, Alma; F. J. Graham, Alma; A. D. Hobbs, St. Louis; L. A. Howe, Breckenridge; D. M. Howell, Alma; M. C. Hubbard, Vestaburg; E. T. Lamb, Alma; F. C. Thornburg, Alma; R. L. Waggoner, St. Louis, and K. P. Wolfe, Breckenridge.

Associate Staff—Drs. M. G. Becker, Edmore; H. B. Lehner (D.D.S.), Alma; W. R. MacInnes (D.D.S.), Alma; J. D. Sarven, Middleton, and M. Faber, Ashley.

Consulting Staff—Drs. Wm. K. Anderson, Saginaw, Roentgenology; T. F. Berberovitch, Saginaw, Surgery; H. M. Bishop, Saginaw, Surgery; D. C. Durman, Saginaw, Orthopedic Surgery; D. M. Howell, Alma, Eye, Ear, Nose and Throat; R. M. Kempton, Saginaw, Pediatrics; O. W. Lohr, Saginaw,

## GENERAL NEWS AND ANNOUNCEMENTS

THE MUSKEGON COUNTY MEDICAL SOCIETY was first to go over the top by its payment of 1936 dues for its members on Nov. 1, 1935. Congratulations!

\* \* \*

Dr. F. C. Warnshuis, past secretary of the Michigan State Medical Society and now holding a similar position with the California State Medical Society, spoke before the Wayne County Medical Society on November 11, 1935. His subject was "Medical Organization in California."

\* \* \*

Dr. C. T. Ekelund, Dr. James H. Dempster, Dr. Ralph H. Pino, Dr. C. S. Gorsline, and Wm. J. Burns attended the annual Secretaries' Conference at the American Medical Association's headquarters, November 15 and 16, 1935. This conference was attended by representatives of all states in the union.

\* \* \*

The tenth annual clinic of the Highland Park Physicians' Club was held at the Highland Park General Hospital, December 4. The program was received too late for publication in the November number of the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY. The Highland Park Physicians' Clinic has become one of the chief medical events of Wayne County.

\* \* \*

The U. S. Civil Service Commission announces competitive examinations for Principal Medical Officer (Bacillin Calmette-Guerin), and for positions of director, Division of Maternal and Child Health, and director, Crippled Children's Division of the Children's Bureau of the Department of Labor. Applications must be in not later than December 9,

1935. Information at any Post Office or from U. S. Civil Service Commission, Washington, D. C.

\* \* \*

*The Rainbow*, the official organ of the League of the Hard of Hearing, edited by Dr. Emil Amberg of Detroit, contains radio broadcasted addresses over stations WWJ and WXYZ by Dr. Don W. Gudakunst, director of School Health Service, Detroit Department of Health, Dr. Henry F. Vaughan, health commissioner, city of Detroit, and Dr. Burt R. Shurly, of the consulting board of otologists, and Board of Education, city of Detroit.

\* \* \*

Dr. Martin Hoffman of Detroit has been appointed assistant psychiatrist to Eloise Hospital. Dr. Hoffman is a graduate of the medical school of the University of Iowa, year 1922. He served his internship in Harper Hospital, Detroit, returning to his native state to practice. After a brief interval, he located in Detroit where he has been in practice since 1924. Dr. Hoffman has devoted his attention to neurology and psychiatry. The position at Eloise is full time appointment. Among other duties, he will have charge of the parole of the mental patients. Dr. Hoffman is secretary of the Wayne County Medical Society.

\* \* \*

The present Calhoun County Medical Society was organized in Albion, December 4, 1876, and has had an uninterrupted but stormy existence since. At one time it voted to disband. At one time it had a hard struggle to continue in the face of local academies of medicine in the three cities. But it has survived and had a very honorable existence. At one time it included members from all over surrounding counties and members from both Jackson and Kalamazoo have served as president. The bulletin of the Calhoun County Medical Society presents a list of the officers from the time of organization to the present.

\* \* \*

Dr. F. C. Warnshuis, formerly secretary of the Michigan State Medical Society, now secretary of the California State Medical Society, was entertained at a dinner at the Wayne County Medical Society club rooms, November 11, by eight past presidents of the Michigan State Medical Society. After the dinner, Dr. Warnshuis addressed the Wayne County Medical Society on the medical situation in California. He left for a short visit in Ann Arbor when he returned to Los Angeles after attending the annual meeting of state medical editors and secretaries which was held at the Palmer House, Chicago, November 15 and 16.

\* \* \*

Dr. Angus McLean of Detroit addressed the Huron Sanilac Medical Society, October 24. His subject was "The Cause and Effects of War." "Our profession," said Dr. McLean, "seems to be a futile one when we help people to get well in a world where there are too many people already. Fundamentally this over-population is the cause of war. Nations must find an outlet for their growing population in growing markets and colonies." Dr. McLean declared, "History shows that there are three ways of checking a growing population—by famine, by plagues and by war. The average cost of killing a man during the World War was \$20,077 and our cost was \$440,000 per man. Sanilac County's share of the cost of this slaughter is approximately \$375,000."

\* \* \*

Sir Wilfred Grenfell of Labrador fame addressed the Wayne County Medical Society on the night of December fourth. This is the second time Sir Wilfred has appeared before the Wayne County Medical Society. Needless to say, he is a welcome guest before any medical group. His life history has been

unique. Born seventy years ago, he received his medical education in England and became house surgeon to Sir Frederick Treves. In 1892, Sir Wilfred, then plain Dr. Grenfell, crossed the Atlantic with a boat fitted out with modern medical equipment. From that time he has carried on the work, bringing healing to the afflicted inhabitants along the shores of Labrador. At the present time the Grenfell Association maintains five hospitals, seven nursing stations, four boarding schools for orphans, as well as several hospital ships.

## THE DOCTOR'S LIBRARY

*Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.*

A TEXTBOOK OF BACTERIOLOGY. By Thurman B. Rice, A.M., M.D., Professor of Bacteriology and Public Health at the Indiana University School of Medicine. 551 pages with 121 illustrations. Philadelphia and London: W. B. Saunders Company, 1935.

In this textbook the author has omitted many detailed descriptions found in the standard text, yet he gives all the practical essentials necessary for the student or the practitioner. The chapters on bacteriology in every day life and the place of bacteriology in the progress of medicine give the beginning student a good foundation upon which to begin the study of germs and of germ-born diseases.

In discussing each type of bacterium, his illustrated description of its morphology and its cultural characteristics, together with a short history of the germ, the manner in which it produces disease and its specific biologic characteristics is read with fascination. This appears to be a logical method of presenting this subject to the beginning student of medicine. The discussion of immunity and bacterial virulence gives the accepted conception of these factors in the causation of disease. Toxin and antitoxin, agglutinins and precipitins are discussed both in their theoretical and practical aspects. The theoretical aspects of complements and their application in the diagnosis of disease by means of complement fixation tests is explained.

F. L. P.

THE 1935 YEAR BOOK OF RADIOLOGY. Edited by Charles A. Waters, M.D., Associate in Roentgenology, Johns Hopkins University, and Whitmer B. Firor, M.D., Director, Division of Cancer, Department of Hospitals, City of New York. 580 pages. Profusely illustrated, The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago, 1935.

This work is divided into two parts. The first by Waters and Firor is concerned with the advances in x-ray diagnosis. The second part by Kaplan deals with x-ray and radium therapy. While the book is one that every physician limiting his work to radiology will want, the fact that the uses of x-rays and radium cover such a broad field in diagnosis and treatment will make the subject a matter of interest to almost every physician and surgeon. The book is a review (not an abstract, merely) of the recent voluminous literature on the subject. Much of the roentgenographic material reviewed for this book is not accessible to English readers. Almost the entire field of x-ray diagnosis is covered so far as recent studies are concerned. The subject of treatment is taken up as regards its most recent aspects. This section, which is half the book in extent, will appeal not only to the radiotherapist but to the surgeon and physician who may not treat the conditions for which this therapeutic agent is indicated but who are accustomed to refer such patients from time to time. In his introduction,



Kaplan reviews the present status of radiation therapy. He discusses the use of super-powered x-ray therapy but concludes that it is still a moot question whether x-rays generated by super-powered apparatus have greater therapeutic potency than those generated by two hundred kv. apparatus.

**PEDIATRIC TREATMENT.** A Manual of the Treatment of the Diseases of Infants and Children, Designed as Reference Work, Especially for the General Practitioner and Physicians Entering the Field of Pediatrics. By Philip S. Potter, A.B., M.D., F.A.A.P., formerly Instructor in Clinical Pediatrics at the Medical School of Syracuse University, Chief of the Pediatric Service of the University Hospital of the Good Shepherd. Attending Pediatrician at St. Mary's Infants Hospital. Attending Pediatrician to the Berkeley General Hospital and its Out-Patient Department, to the Wellbaby Conferences, and physician to the Berkeley Sunshine School for Undernourished Children, to the High School and to various Grade Schools of Berkeley, California. New York: The MacMillan Company, 1935.

This book is designed for the general practitioner and for the senior students and young practitioners entering practice. While much of the text would seem elementary to those more familiar with pediatric practice, the detailed descriptions of the technic in treatment will be of incalculable value to those for whom they are written. In the chapters on the nutrition and nutritional requirements of infants one finds the subject ably handled, although one might take issue with the statement that "certified milk is the only milk which can be used with comparative safety in large communities." Moreover, it would seem that the use of evaporated milk in the feeding of infants would merit more consideration than is given to it.

The treatment of abnormalities and conditions developing in the newborn is grouped so that much information is made easily available. The diseases of the various systems are considered in order and the author's method of treatment is given. In the treatment of several conditions, one fails to find mention of some of the remedial measures more recently suggested in the pediatric literature. While these measures may be not yet of proven value, it would seem that they should be discussed in a work of this type.

Particularly valuable to the practitioner is the chapter on the use of drugs in pediatric practice. Dosage and the physiologic effect, together with the indications and contraindications for the use of various forms of medication in pediatric practice, is discussed in an instructive manner.

F. L. P.

**DISEASES OF THE LIVER, GALL-BLADDER, DUCTS AND PANCREAS. THEIR DIAGNOSIS AND TREATMENT.** By Samuel Weiss, M.D., F.A.C.P., Clinical Professor of Gastroenterology, N. Y. Polyclinic Medical School and Hospital; Attending Gastroenterologist, Jewish Memorial and Beth David Hospitals, N. Y.; Consulting Gastroenterologist, Long Beach Hospital, L. I., etc. Chapter on Surgery by J. Prescott Grant, M.D., F.A.C.S., M.R.C.S., Professor of Surgery, N. Y. Polyclinic Medical School and Hospital; Attending Surgeon, City Hospital; Director of Surgery, Midtown Hospital. Chapter on Roentgenology by A. Judson Quimby, M.D., F.A.C.R., Professor of Roentgenology, N. Y. Polyclinic Medical School and Hospital; Visiting Roentgenologist, Broad Street Hospital. 358 illustrations and six color plates. Paul B. Hoeber, Inc., New York, 1935.

This is a voluminous work consisting of more than nine hundred pages in which the author gives a detailed description of each pathological condition. He discusses both clinical and experimental physiology of these organs and of the bile. He gives details of various functional tests in use and his interpretation of their value. Anomalies and abnormal anatomical variations in structure are shown in drawing and in halftone. These should be of value to the surgeon. In the chapter on nonsurgical drainage of the gallbladder, the author discusses at length

the study of the aspirated material and gives a favorable opinion on this study in diagnosis and treatment of gall-bladder disease. A. Judson Quimby contributes a chapter on the use of the halogen preparations, together with the x-ray, in the study of disease of the gall bladder. A chapter on surgery of these organs is written by J. Prescott Grant, who gives the technic of many operations. The author does not neglect the medical and dietetic management of disease of these organs, but gives much information of value.

Throughout the work there is a profusion of illustrations. These are of fine quality and materially amplify the value of the text.

There are nearly one hundred pages of bibliographic references to subject matter covering these diseases, of great value to the student of this subject.

F. L. P.

#### THE PRINCIPLES AND PRACTICE OF MEDICINE.

By Sir William Osler, M.D., F.R.S., Late Regius Professor of Medicine at Oxford University; Honorary Professor of Medicine in Johns Hopkins University, Baltimore; and Thomas McCrae, M.D., Fellow of the Royal College of Physicians, London; Professor of Medicine at Jefferson Medical College, Philadelphia. Twelfth Edition. Completely revised, reset, and printed from new plates. 1,245 pages. With charts and illustrations. Cloth. \$8.50. D. Appleton-Century Company, New York and London, 1935.

A newly revised edition of Osler's famous work on practice is a noteworthy event in American Medicine. The first edition appeared in 1892. That this work continues to be in demand long after the author's death speaks well for its popularity as revised each time by Dr. McCrae. Every effort has been made to bring the work up to date by incorporating what has been found to be of permanent value. The revision of any work on medicine or surgery is largely a matter of elimination of the obsolete and the presentation of what is new. In the present revision Dr. McCrae has accomplished this without materially increasing the size. The book has been completely reset with a new style of type somewhat smaller but more easily read. The study of the patient is emphasized rather than too much reliance on the laboratory. Dr. McCrae is a strong advocate of physical diagnosis, which appears to have suffered with the perfection of laboratory methods. To quote: "The physician and student should always make it a rule to learn everything about a patient by the use of his own senses and brains. For example, to have a roentgenologist make the diagnosis of fluid in the pleural cavity should cause a clinician to be thoroughly ashamed of himself." So thoroughly has the work been revised that space will not permit enumeration of the additions and changes. To those who prefer a single volume on medicine that embodies the teaching of a single mind the twelfth edition of Osler will be found invaluable.

**THE TREATMENT OF DIABETES MELLITUS.** By Elliott P. Joslin, M.D. (Harvard), M.A. (Yale), Medical Director, George F. Baker Clinic, New England Deaconess Hospital; Clinical Professor of Medicine, Harvard Medical School; Consulting Physician, Boston City Hospital, with the cooperation of Howard F. Root, M.D.; Priscilla White, M.D.; Alexander Marble, M.D. Fifth Edition, Revised and Rewritten. Illustrated. Philadelphia: Lea & Febiger, 1935.

In considering the etiology of diabetes, use of the knowledge of a thorough statistical study is made. The factors of heredity and obesity are discussed critically. Charts and tables show their etiological influence. In the chapter on physiology of diabetes, one finds a discussion of the theories as to the nature of diabetes. Throughout the chapter the pathologic physiology as seen in the diabetic is compared and contrasted with the physiology of the normal individual.

The authors give their conception of food requirements of the normal individual and contrast these with the requirements of the diabetic. The principle of undernutrition is enunciated. While their "diabetic creed" is offered as the best present practical guide in caring for the diabetic, the authors recognize that advancing knowledge will necessitate changes in this creed. Three factors, diet, insulin and exercise, are stressed as of paramount importance in the treatment of diabetes.

The chapter on diabetic coma, as revised by Marble, gives a thorough discussion of this complication. Complications on the part of the cardio-vascular system, the digestive, nervous and genito-urinary systems are given worthy consideration. The subject of infection as an etiologic factor as well as a complicating factor is discussed. A chapter is devoted to surgery in the diabetic. The gravity of surgical conditions as complications is pointed out and the necessity for strict medical care in these cases is stressed. Various types of surgical complications are discussed and particular attention is given to diabetic gangrene. The relation of pathology in other glands of internal secretion is shown. Doctor Priscilla White writes the chapter on diabetes in childhood. Her discussion of this subject is complete and detailed. She stresses the fact that only in children does one see pure diabetes and that the study of the disease in childhood has brought about a revolutionized conception of the underlying causes of the disease. White, also, writes a chapter on pregnancy in the diabetic.

F. L. P.

#### Paul B. Hoeber Joins Harper Brothers

Harper & Brothers announce that they have acquired the medical book publishing business of Paul B. Hoeber, Inc. A program of expansion is planned, and medical books will be published under the imprint of Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers. Mr. Paul B. Hoeber, the founder, remains in charge of this department.

Paul B. Hoeber, Inc., was established in 1901 as a medical bookstore. The first book published under the Hoeber imprint—Ehrlich's "Specific Therapeutics"—appeared in 1909. Since then it has pioneered in the publication of authoritative medical books which have been noteworthy also for their fine manufacture. The firm is well known for its series of Medical Monographs, which includes works by Francis R. Packard, Hugh H. Young, David Riesman, Sir Humphry Rolleston, Frederick Tilney, Charles A. Elsberg, and other authorities. It has specialized in medical history, and established in 1917 the "Annals of Medical History," internationally known as the outstanding publication of its kind. Among the eminent books which have appeared under the Hoeber imprint are "The Brain From Ape to Man" by Frederick Tilney, "Nervous Indigestion" by Walter C. Alvarez, "Pediatrics of the Past" by John Rurah, and the "Annals of Roentgenology" of which sixteen volumes have been published to date.

#### The True Economy of Dextri-Maltose

It is interesting to note that a fair average of the length of time an infant receives Dextri-Maltose is five months: That these five months are the most critical of the baby's life: That the difference in cost to the mother between Dextri-Maltose and the very cheapest carbohydrate, at most, is only \$6 for this entire period—a few cents a day: That, in the end, it costs the mother less to employ regular medical attendance for her baby than to attempt to do her own feeding, which in numerous cases leads to a seriously sick baby eventually requiring the most costly medical attendance.

#### Lilly Adds Spectrophotometric Equipment

Complete spectrophotometric equipment has recently been installed in the Lilly Research Laboratories for work in both the visible and ultraviolet light ranges. The spectrophotometer, an instrument for measuring the light absorption and emission spectra of various substances, shows great promise as an accurate research and control tool. Although its possibilities are just being developed, its application in general research is opening up avenues of approach to analytical, purification, and standardization problems to which previously known methods will not apply. The equipment consists of a standard photometer and spectroscope for work in the visible light range; and a quartz spectrograph and a specially built rotating sector photometer for ultraviolet work. For the latter the light source is a  $\frac{3}{4}$  inch, underwater spark operating at 250,000 volts, produced by stepping up 110 volts alternating current through a transformer and a large Tesla coil. For emission spectra, the light source is a 250-volt open-air arc.

#### CLASSIFIED ADVERTISEMENTS

**WANTED**—Position as assistant to physician in either general practice or surgery, preferably surgery. Recently completed three-year internship in large Chicago Hospital. Considerable surgical training. Have spent one year in Pathology. Single. Michigan license. Available immediately. Straight salary or salary and percentage. Address Box 626, Sheffield, Alabama.

**MORPHINE AND OTHER DRUG ADDICTIONS**—Institutional care and treatment of selected patients who have responsibilities, wish to make good and learn how to keep well; methods easy, regular, humane. Twenty-eight years' experience. Dr. Weirick's Sanitarium, Elgin, Ill.

#### DR. CHARTERS' MATERNITY HOSPITAL

A private hospital and home for young women desiring seclusion. Patients accepted any time during gestation. Rate reasonable.

FLUSHING .....MICHIGAN



# INDEX TO VOLUME XXXIV

## AUTHORS INDEX

Adams, F. O.....	288, 293
Allen, Thomas D.....	219
Altshuler, Ira M.....	236
Aronstam, Noah E.....	440
Badgley, Carl E.....	469
Barker, Lewellys F.....	197, 268
Battle, J. C. S.....	229
Beigler, Sydney K.....	438
Bell, J. Kenner.....	150
Belote, G. H.....	172
Benning, C. H.....	541
Biddle, Andrew P.....	645
Brachman, D. S.....	529
Brooks, C. D.....	417
Burns, William J.....	109
Butler, William J.....	479
Campbell, Alexander M.....	146
Cantor, Meyer O.....	15
Champion, Merrill E.....	297
Chrouch, Laurence A.....	484
Coller, F. A.....	281
Collins, Ward E.....	145
Cope, H. E.....	536
Crane, A. W.....	19
Croll, Leo. J.....	543
Curry, George J.....	316
Cutler, Elliott C.....	139
Davis, C. R.....	85
Davis, James E.....	472
Davis, Loyal.....	487
Donald, William M.....	17
Dowdle, Edward.....	294
Fairchild, Robert D.....	774
Farbman, Aaron.....	767
Fralick, F. Bruce.....	11
Freund, Hugo.....	208
Fullerton, William D.....	521
Garipey, L. J.....	108, 546
Glowacki, B. F.....	535
Gordon, Thomas D.....	537
Gordon, William Henry.....	7, 167
Hackett, Walter L.....	84
Hewitt, Herbert W.....	421
Hirschman, Louis J.....	662
Horan, T. N.....	772
Hudnutt, O. D.....	440
Hull, L. W.....	432
Jamieson, R. C.....	654
Jones, M. M.....	614
Krieg, Earl G.....	156
Laning, G. M.....	772
Leithauser, Daniel J.....	15
Litzenberg, Jennings C.....	650
Long, Perrin H.....	157
Luce, H. A.....	107
McGillicuddy, Oliver B.....	32
MacMillan, J. A.....	497
Marshall, Don.....	172
Maurits, Reuben.....	463
Meade, William H.....	293
Metzger, Harry C.....	502
Miller, Norman F.....	4
Moehlig, Robert C.....	263
Molner, J. G.....	288
Owen, Robert G.....	536
Penberthy, Grover C.....	1
Pettis, E. M.....	358
Powers, Julius.....	26, 93
Price, Alvin E.....	757
Purdy, Clayton.....	552, 621, 679
Rector, Frank Leslie.....	666, 778
Rennell, E. J.....	92
Reye, H. A.....	212

Roehm, H.....	775
Rothbart, B.....	424
Rundles, W. Z.....	777
Saltzstein, Harry C.....	762
Sanderson, Susanne.....	166
Schiller, Arthur E.....	608
Sehring, G. H.....	4
Shaffer, Loren W.....	601
Sidall, Roger S.....	300
Silberman, Maurice M.....	84
Smith, Ferris.....	593
Smith, J. Campbell.....	598
Smith, Richard R.....	575
Snyder, Clarence H.....	224
Stafford, Frank W.....	108
Stalker, Hugh.....	36
Stapleton, William J., Jr.....	307, 504
Stewart, G. C.....	314
Stieglitz, Edward J.....	70
Straith, Claire L.....	64
Sturgis, Cyrus C.....	59
Sulzberger, Marion B.....	78
Swanson, Cleary N.....	585
Thomas, William A.....	581
Tuck, R. G.....	89
Valade, Cyril K.....	426
VandenBerg, Henry J.....	596
Van Rhee, George.....	604
White, S. Marx.....	747
Willis, Henry Stuart.....	589

## CONTRIBUTED PAPERS

### A

- Abdominal pregnancies occurring in Detroit during 1933. Cleary N. Swanson, M.D., 585
- Agranulocytosis with recovery, A case of, following the administration of concentrated liver extract. O. D. Hudnutt, M.D., 440
- Allergic dermatoses, A suggestion for the classification of certain. Marion B. Sulzberger, M.D., 78
- Allergic individual, The rhinological management of the. James E. Croushore, M.D., and Samuel J. Levin, M.D., 369
- Andrews, Frank, The education of. A. W. Crane, M.D., 19
- Anesthesia, Individualized. Reuben Maurits, M.D., 463
- Appendicitis, The gridiron incision in. C. R. Davis, M.D., 85
- Appendicitis, The tragedy of. C. D. Brooks, M.D., 417
- Arterial disease, hypertensive, The biologic unity of. Edward J. Stieglitz, M.D., 70
- As seen abroad. Julius Powers, M.D., 26, 93

### B

- Bitterling pregnancy test. Robert G. Owen, M.D., and H. E. Cope, M.D., 536
- Brain tumor complicating pregnancy. William H. Meade, M.D., 293.
- Burns, tannic acid, Treatment of. Grover C. Penberthy, M.D., 1

### C

- Cancer survey of Michigan. Frank Leslie Rector, M.D., 666, 778
- Carcinoma of the uterus: Its early diagnosis and treatment. William D. Fullerton, M.D., 521

- Cataract, Dinitrophenol. W. Z. Rundles, M.D., 777  
 Cataracts, Acute, presumably due to dinitrophenol therapy. B. F. Glowacki, M.D., 535  
 Child health in Michigan, Comments on an experiment in. Merrill E. Champion, M.D., 297  
 Chronic urinary tract infections, A low calorie ketogenic diet for the treatment of. Reed M. Nesbitt, M.D., Curtis H. McDonnell, M.D., and Genevieve C. Rourke, M.D., 347  
 Cigarette smoking, Excessive, in women and its effect upon their reproductive efficiency. Alexander M. Campbell, M.D., 146  
 Common colds, A discussion of the value of various prophylactic measures in the prevention of. Perrin H. Long, M.D., 157  
 Coronary thrombosis with paroxysmal ventricular tachycardia. Hugh Stalker, M.D., 36  
 Cranio-cerebral injuries, The treatment of. Loyal Davis, M.D., 487

## D

- Dermal lesions, The changing aspect of, in relation to internal abnormalities. R. C. Jamieson, M.D., 654  
 Dermatitis, Metaphen. G. H. Belote, M.D., and Don M. Marshall, M.D., 172  
 Dermatophytosis, Factors affecting the immunity balance in. Loren W. Shaffer, M.D., 601  
 Diabetes insipidus after epidemic encephalitis. L. E. Himler, M.D., 350  
 Diet to skin diseases, The questionable relationship of. Cyril K. Valade, M.D., 426  
 Doctor and malpractice, The. William J. Stapleton, Jr., M.D., 504  
 Doctor Christian—A tribute, 246  
 Duodenal obstruction, Intermittent. J. Kenner Bell, M.D., 151  
 Duodenal ulcers, perforated, Multiple acute. Edward Dowdle, M.D., 294

## E

- Ectopic pregnancies. David M. Davidow, M.D., 376  
 Eczema, Infantile. George Van Rhee, M.D., 604  
 Ekelund, C. T., Secretary-Elect, 183  
 Essential hypertension, The status of. S. Marx White, M.D., 747  
 Every physician a health teacher. Ward E. Collins, M.D., 145  
 Eyes, Some of the changes found in the, in the control and treatment of which the general practitioner and the eye physician should cooperate. Thomas D. Allen, M.D., 219

## F

- Facial wounds due to motor accidents, The treatment of. Claire L. Straith, M.D., 64  
 Feeding of the premature infant, The. B. Rothbart, M.D., 424  
 Fetal hypoglycemia due to hyperinsulinism. William Henry Gordon, M.D., 167  
 Fibroma of the pylorus, Solitary intramural. Daniel J. Leithauser, M.D., and Meyer O. Cantor, M.D., 15  
 Fossa navicularis, Pathological process of the. Noah E. Aronstam, M.D., 440

## G

- General practitioner, The, as his own neurologist. Hugo A. Freund, M.D., 208  
 Glaucoma, The management of. F. Bruce Fralick, M.D., 11

## H

- Health survey, The periodic, in women. Edwin S. Hoffman, M.D., 374  
 Hematuria. William J. Butler, M.D., 479  
 Hepatic insufficiency, Acute. William A. Thomas, M.D., 581

Heredity and environment in relation to the handicapped.

- Lecture I. The origin and nature of human handicaps. Lewellys F. Barker, M.D., 197  
 Lecture II. The amelioration of the conditions of the handicapped and the possibilities of reduction of their numbers by modifications of heredity and environment. Lewellys F. Barker, M.D., 268  
 Hernia, Interstitial. Sydney K. Beigler, M.D., 438  
 History taking, The art of. Harry C. Saltzstein, M.D., 762  
 Hyperthyroidism with blood phosphorus and calcium changes. I. I. Bittker, M.D., 381

## I

- Idiopathic megacolon occurring in a woman forty-five years of age. E. J. Rennell, M.D., 92  
 Intestinal fistula. Henry K. Ransom, M.D., and Frederick A. Collier, M.D., 281

## L

- Liver deaths following surgery of the gallbladder. Herbert W. Hewitt, M.D., 421  
 Lobar pneumonia, The serum treatment of. Alvin E. Price, M.D., 757

## M

- Maimonides, 247  
 Maternal mortality and the practice of obstetrics in Michigan. Jennings C. Litzenberg, M.D., 650  
 Measles, Immune globulin used as a preventive and modifier of. G. M. Laning, M.D., and T. N. Horan, M.D., 772  
 Medical insurance. G. C. Stewart, M.D., 314  
 Medical morals, Major and minor. Lewellys F. Barker, M.D., 352  
 Medical practice in Europe, An aeroplane view of. Louis J. Gariépy, M.D., 546  
 Medical school, Important integrations of the. James E. Davis, M.D., 472  
 Medicine, The future of. J. C. S. Battley, M.D., 229  
 Medicine: The influence of the social forces. Andrew P. Biddle, M.D., 645

## N

- Neurotic reactions in marriage. H. A. Reye, M.D., 212  
 Neutropenia, Malignant: Its etiology and treatment. Wm. Henry Gordon, M.D., 7  
 Normal nutrition in children. Harry C. Metzger, M.D., 502

## O

- Oral mucous membrane, Some interesting and unusual lesions of the. Arthur K. Woodburne, M.D., 384  
 Osgood-Schlatter's disease: Principles of treatment with a review of three cases. Robert D. Fairchild, M.D., 774  
 Our interesting "Orient." W. J. Stapleton, Jr., M.D., 307  
 Ovarian cyst, extraperitoneal, Report of a case of. Maurice M. Silberman, M.D., 84  
 Ovary, A solitary teratoma of the. Case report. Susanne Munro Sanderson, M.D., 166

## P

- Paroxysmal hemoglobinuria. Louis Jaffe, M.D., 312  
 Patient, The, before operation. George J. Curry, M.D., 316  
 Pelvic prolapse, Conservative repair of. Earl G. Krieg, M.D., 156  
 Peri-anal suppuration as a focus of infection. Louis J. Hirschman, M.D., 662  
 Physicians as dramatists. Gaylord W. Bates, M.D., 362  
 Physician's philosophy. A. J. A. MacMillan, M.D., 497



- Physiological postural deformities in contrast to pathological postural deformities. Carl E. Badgley, M.D., 469
- Pituitary basophilism, Some clinical aspects of. Robert C. Moehlig, M.D., 263
- Pituitary disease, Diagnosis of. Aaron Farbman, M.D., 767
- Pneumonia, An appraisal of the methods of treating. Cyrus Sturgis, M.D., 59
- Pneumonia—A short clinical lecture. William M. Donald, M.D., 17
- Polioomyelitis with Kolmer's vaccine, Active immunization of children against acute anterior. H. Roehm, M.D., 775
- Post-graduate education, 185, 249
- Potter type of internal podalic version, The value of the, in the management of persistent posterior occiput cases. M. M. Jones, M.D., 614
- President's annual address: Michigan and our profession—yesterday and today. Richard R. Smith, M.D., 575
- Puerperal sepsis. Laurence A. Chrouch, M.D., 484
- Pyloric stenosis, Congenital hypertrophic. Henry J. VandenBerg, M.D., 596

## S

- Sickle-cell anemia: Etiology. Harold A. Robinson, M.D., 388
- Sinusitis, Chronic, in children. Ferris Smith, M.D., 593
- Skin diseases in industry. Arthur E. Schiller, M.D., 608
- Smollett, Tobias G., An appreciation of. Roger S. Siddall, M.D., 300
- Splenic artery, Aneurysm of the, with fatal hemorrhage. Geo. L. LeFevre, M.D., and E. M. Pettis, M.D., 358
- Spondylitis in undulant fever. Clarence H. Snyder, M.D., 224
- Sterile surgical maggots, The source and production of. J. G. Molner, M.D., and F. O. Adams, M.D., 288
- Strabismus, concomitant convergent, The proper treatment of. Leo J. Croll, M.D., 543

## T

- Temporal lobe abscess of otitic origin. Oliver B. McGillicuddy, M.D., 32
- Toxic thyroid patient, The preoperative and postoperative treatment of the. Elliott C. Cutler, M.D., 139
- Trichomonas vaginalis vaginitis, The treatment of. J. Campbell Smith, M.D., 598
- Traumatic neurosis. Ira M. Altschuler, M.D., 236
- Tuberculosis, early, The diagnosis of. Henry Stuart Willis, M.D., 589
- Tuberculosis in the adolescent. D. S. Brachman, M.D., 529
- Typhoid fever, Outbreak of, due to carrier. C. H. Benning, M.D., 541

## U

- Urethritis, Some observations on. L. W. Hull, M.D., 432
- Uterine fibroids: The importance of diagnostic curettage in their management. Norman F. Miller, M.D., and Geo. H. Sehring, M.D., 4

## V

- Vomiting, Recurrent. Thomas D. Gordon, M.D., 537

## W

- Welfare medical service in Oakland County. R. G. Tuck, M.D., 89
- Woman's Auxiliary to the Wayne County Medical Society, History of the, 450

## DEPARTMENT INDEX

## Be Prepared for Your Cancer Patient

Responsibility of the Physician to the Cancer Patient, 789

## Communications

Pages 54, 136, 195, 257, 327, 457, 516, 572, 803

## County Societies

Barry County, 51, 409  
 Clinton County, 190  
 Dickinson-Iron County, 190  
 Eaton County, 191, 340  
 Houghton County, 112, 191, 409, 515  
 Kent County, 51  
 Livingston County, 692  
 Monroe County, 191, 515  
 Muskegon County, 191, 253, 571  
 Northern Michigan, 253  
 Saginaw County, 134  
 St. Clair County, 51, 192, 341, 409, 410, 800  
 Shiawassee County, 409  
 Tuscola County, 52, 410  
 Wayne County, 253, 410

## The Doctor's Library

Pages 57, 138, 260, 346, 416, 461, 520, 644, 696, 806

## Editorial Department

Affairs in California, 619  
 Andrews, Dr. Frank, 41  
 Annual Meeting, The, 506  
 Beaumont Foundation Lecture, The, 242  
 Cancer Cures, 676  
 Common Cold, The, 176  
 Corbus, Doctor, Resigns as Councilor, 241  
 Credit Rating, 99  
 Crippled Child Act, The, 41  
 Doctors as Legislators, 507  
 Donald, Dr. William M., 785  
 Economic Security, 40  
 Fever Therapy, 394  
 Food Faddist, 177  
 Fractures, 443  
 Function of Health Organizations, 676  
 Getting Along by Degrees, 673  
 Good Will, The Value of, 396  
 Group Budgeting for Hospital Care, 673  
 House of Delegates Deliberations, 678  
 House of Delegates, Special Meeting of the, 241  
 How to Attain Greatness, 620  
 Huber, G. Carl, Anatomist, 100  
 Insidious Propaganda, 786  
 Late Dr. Caroline Bartlett Crane, The, 321  
 Lay Control, 240  
 Malpractice, 241  
 Malpractice, Testimony in, 442  
 Mastoiditis, 176  
 Medical Autonomy, 99  
 Medical Economics, 98, 395, 507  
 Medical Papers, 507  
 Medico-Legal Department, 551  
 Mental Patient, The, 318  
 Moore, Dr. Vernor M., 319  
 New and the Old, The, 508  
 Novy, Frederick G., 39  
 Ownership of X-ray Films, The, 675  
 Poor Fish, 551  
 Popular Profession, A, 397  
 Postgraduate Medical Education, 784  
 Postgraduate Medicine, 388  
 Preserve Your Journals, 177  
 President's Address, The, 619  
 Private Institutions Fare Better than Public in Depression, 674

Radiologic Exhibit, 506  
 Records, 39  
 Second Cause of Death, The, 787  
 Socialized Medicine, 550  
 "State," The, 620  
 Strange Bedfellows, 98  
 Surgical Operations, Names of, 319  
 Taxes, 319  
 Treating Tuberculosis, 176  
 Trusting Brains, 177  
 Vale 1935, 784  
 What Price "Slendering," 551  
 When is a Doctor a Layman?, 242

#### The Editor's Easy Chair

Doctor and the Public, The, 629  
 Doctor in History, The, 444  
 Journalism, 322  
 Literature, 182  
 Receding Frontiers, 42  
 Reviewing an Old Book, 104

#### Medical Economics

Afflicted Persons Laws of Michigan, The. L. J. Garipey, M.D., 108  
 Discussion of Practice of Medicine by Corporations. Frank W. Stafford, M.D., 108  
 Metropolitan Detroit Health Council. William J. Burns, 109  
 Plea for Medical Leadership, A. H. A. Luce, M.D., 107

#### Medico-Legal Department

Legal Consent to Operations. Clayton Purdy, 621  
 Statute of Limitations as Applied to Physicians and Surgeons, The. Clayton Purdy, 552  
 Sterilization of Mental Defectives in the State of Michigan. Clayton Purdy, 679  
 Unjust Malpractice Cases. Herbert V. Barbour, 788

#### Michigan's Department of Health

Pages 134, 195, 256, 344, 411, 455, 515, 573, 640, 694

#### A Moment of Medical History

Antisepsis, 44  
 Bacteriological and Tissue Culture Methods, 554, 622  
 Development of Books, The, 243, 323  
 Development of the Ophthalmoscope, The, 509  
 Microscopical Technic, 398  
 Preventive Inoculation, 681  
 Radium, 101  
 Surgical Anesthesia, 446  
 X-rays, The, 178

#### News and Announcements

Pages 55, 137, 196, 258, 345, 412, 458, 516, 574, 643, 695, 791, 804, 805

#### Obituary

Amadon, Philip D., 455  
 Bender, Frederick P., 344  
 Christian, Edmund E., 195  
 Cunningham, J. W., 803  
 Dougher, Edward J., 573  
 Ferguson, G. H., 343  
 Gesner, George, 803  
 Hayward, Edward H., 257  
 High, Charles V., 641  
 Huber, G. Carl, 55  
 Knight, H. Edward, 134  
 Lehman, Christopher G., 803  
 Maire, Lewis E., 134  
 Manwaring, J. G. R., 343  
 Polozker, I. L., 573  
 Smith, David Trumbull, 641  
 Stringham, W. R., 195  
 Van Zwaluwenburg, Cornelius, 803  
 Varney, H. R., 573

#### President's Page

The Destiny of Immortal Medicine is in Your Hands, 783

#### Society Activity

Afflicted Child Care, 795  
 Afflicted Crippled Children Conference, 692  
 American Medical Association Conference on County Plans, 406  
 American Medical Association Convention, The, 452  
 Announcements, 685  
 Annual Meeting, The 1935, 558  
 Annual Meeting, The 1935, Program, 561  
 As the Matter Now Stands (Michigan Crippled Children Commission), 454  
 Supplement, 514  
 Attention All Secretaries, 186  
 Bay County Plan for Medical Investigation of Applicants for Hospitalization—Summary, 796  
 Buying Health, 49  
 Cancer Committee, Minutes of Meeting, 799  
 Cancer in Michigan, 48  
 Cancer Problem in Michigan, The, 110  
 Conference of County Secretaries, Annual, 252  
 Proceedings, 328  
 Council and Committee Meetings, 797  
 Council of the Michigan State Medical Society:  
 Annual Meeting (Two sessions), 689  
 Executive Committee Meetings, Minutes, 49, 188, 339, 408, 570, 690, 691, 798  
 Midwinter Meeting, 110  
 Midwinter Meeting, Minutes, 113  
 Dr. Tuck's Impression of Chicago Conference, 407  
 Dues Increased, 794  
 Federal Survey of Chronic Illnesses, 634  
 First Year, The, 250  
 Have You Paid Your Dues?, 252  
 Headlines and Comments, 635  
 High Schools Debate, 634  
 House of Delegates of American Medical Association, Special Meeting of the, 186  
 Report of Reference Committee on Special Meeting, 246  
 In Memoriam, 50  
 Interstate Medical Assembly Program, 631  
 Joint Committee on Health Education, 794  
 Legislation, 252  
 Legislative Accomplishments, 453  
 Legislative Committee, Minutes of Meeting, 799  
 Legislative Lobbying, 188  
 Medical Education and Practice, 403  
 Medical Relief in Ontario, 251  
 Michigan State Medical Society:  
 Annual Meeting, The 1935, 558  
 Program, 1935 Annual Meeting, 561  
 Seventieth Annual Meeting, 513  
 Seventieth Annual Meeting Proceedings, 697  
 X-ray Exhibit at State Meeting, 556  
 Michigan State Medical Society—A Retrospect and a Valedictory, 685  
 Michigan Women Physicians Meet at the Soo, 688  
 Mr. Millbank Looks at the Problem, 189  
 New Secretariat, The, 794  
 Officers for 1935-1936, 634  
 On Regimentation and Bureaucracy, 636  
 Our Editor Honored, 514  
 Pediatricians Meet, 691  
 Permission to Operate, 338  
 Postgraduate Study—University of Michigan Medical School and Michigan State Medical Society—Program, 569  
 Present Status of the Care of Afflicted Children in Michigan, 636  
 Public Relations Committee, Minutes, 797  
 Soldier in Science, A, 187  
 Soo Meeting, The, 625  
 Supplement to "As the Matter Now Stands," A, 514  
 What of the New Year?, 48

#### Woman's Auxiliary

Pages 52, 132, 192, 254, 341, 410, 454, 572, 639, 692, 801



# THE JOURNAL

OF THE

## Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Volume 34

January, 1935

No. 1 [Whole No.]

387

YEARLY SUBSCRIPTION \$5.00--SINGLE COPY 50 CENTS

### 1935

The President, the Council, House of Delegates, and Officers of the Michigan State Medical Society extend to the members the season's greetings and best wishes for a happy and prosperous New Year.



## ACCEPTED

**EFFICIENT SOURCE OF VITAMINS B and G for supplementing diets of pregnant/nursing mothers and for breast/bottle-fed infants. MEAD'S BREWERS YEAST is advertised only to physicians without dosage directions or package circulars. Servamus Fidem**  
**—“We are Keeping the Faith.”**



Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons

## Seven Years Experience

with Erysipelas Streptococcus Antitoxin has proved it to be a valuable remedy in the treatment of this formerly uncontrollable infection.

### Erysipelas Streptococcus Antitoxin *Lederle*

Reduces mortality 30 per cent.  
Reduces duration of attack 60 per cent.  
Saves expense in care of patient.

*Supplied in packages of one therapeutic  
dose of approximately 10 cubic centimeters*

*Literature sent on request*

**LEDERLE LABORATORIES INC., 511 Fifth Avenue, New York**

### Gas Gangrene Antitoxin *Lederle*

SINCE the discovery of *Vibrio Septique* by Pasteur in 1877 five important spore-forming, toxin-producing anaerobes have been found associated with gas gangrene infections. Therefore, no monovalent antitoxin can be expected to be effective in all cases. Thus a combination of antitoxins is indicated for both the prophylactic and therapeutic treatment of gas gangrene.

#### Gas Gangrene Antitoxin *Lederle* (POLYVALENT)

contains five antitoxins in therapeutic dosage

**Perfringens**

**Oedematiens**

**Vibrio Septique**

**Sordelli**

**Histolyticus**

**For Prophylaxis  
Tetanus  
Gas Gangrene Antitoxin  
*Lederle***

A combination containing antitoxins in prophylactic dosage against infections from *B. Tetani* and the two most common causes of gas gangrene, *B. Perfringens* and *Vibrio Septique*.

Tetanus-Gas Gangrene Antitoxin for prophylaxis should be injected subcutaneously within 12 hours of the injury. In extensive wounds contaminated by foreign bodies, inject two prophylactic doses.

These antitoxins are specific for all the toxin-producing, spore-forming anaerobes now credited with causing gas gangrene in man.

A report by VINCENT indicates that antitoxin treatment of gas gangrenous wounds reduced the mortality from 67 per cent to 15 per cent.

*Literature sent on request*

**LEDERLE LABORATORIES INC., 511 Fifth Avenue, New York**



Here's the way I write  
Chesterfield —



## WEHENKEL HOME

19810 Farmington Rd., Farmington, Mich.

Between 7 and 8 Mile Roads near Detroit



### CONVALESCENT HOME FOR TUBERCULOSIS

#### *Private Estate*

Under Directorship of A. M. Wehenkel, M.D.

#### *Suburban Location*

Ten Rolling Acres—Beautifully landscaped. Spring Water—Foodstuffs from own gardens. Constant Medical Supervision. Restful and quiet accommodations in a beautifully furnished, palatial home. **RATES: \$15.00 and upward, weekly, including Medical and Nursing Services.** Tel.: City Offices, Madison 3312-3; Sanatorium, Farmington 332.

## MILWAUKEE SANITARIUM

Wauwatosa, Wis.

### For NERVOUS DISORDERS

(Chicago Office—1823 Marshall Field Annex  
Wednesdays, 1-3 P. M.)

#### RESIDENT STAFF

Rock Sleyster, M.D., Med. Dir.  
William T. Kradwell, M.D.  
Merle Q. Howard, M.D.  
Carroll W. Osgood, M.D.

#### ATTENDING STAFF

H. Douglas Singer, M.D.  
Arthur J. Patek, M.D.

Maintaining the highest standards over a period of fifty years, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars sent on request.

#### COLONIAL HALL—

*One of the 14 Units in "Cottage Plan."*





# THE JOURNAL

OF THE

## Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Volume 34

DECEMBER, 1935

No. 12

[Whole No.]  
398

YEARLY SUBSCRIPTION \$5.00--SINGLE COPY 50 CENTS

### GREETINGS

Perhaps a little early, but by the time three weeks have passed, we will be launched into a New Year. As physicians, we have worked on, accepting the situation as we find it and making the best of it. Let us hope that the specter of insecurity is in its penumbra and that it will sooner or later disappear, for one's best work is possible only as social and economic security is assured. Our best wishes go forth for a Merry Christmas and a Happy New Year to all members.



## ACCEPTED

**EFFICIENT SOURCE OF VITAMINS B and G** for supplementing diets of pregnant/nursing mothers and for breast/bottle-fed infants. **MEAD'S BREWERS YEAST** is advertised only to physicians without dosage directions or package circulars. *Servamus Fidem* —“We are Keeping the Faith.”



Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons

DEC 16 1935

COLLEGE OF PHYSICIAN  
LIBRARY  
OF PHILADELPHIA

# THE TIN CONTAINER

● The simple facts about many things encountered in everyday life are sometimes not understood and, frequently, their values are not fully appreciated by persons thrown in daily contact with them. Among such things, we can include the so-called "tin cans" and the foods which they may contain.

For example, many may have wondered—but, certainly, few have inquired—as to the origin of the popular designation for tin containers. The name "tin cans" arose from an abbreviation of the term "tin cannisters" applied to them during the latter part of the last century by English manufacturers. Such a name is hardly correct, since "tin cans" are made from mild steel which has been rolled into thin sheets and coated with pure tin. Actually, the can is about ninety-eight percent iron.

Again, interest has sometimes been expressed in regard to the nature and purpose of the enamels found in cans in which certain products are packed. These enamels are essentially lacquers

developed by years of intensive research; they are baked on the tin surface at high temperatures. Their chief purpose is to preserve natural flavor and color characteristics of some foods. While desirable in certain instances, enameled cans are not necessary to insure a wholesome canned product.

The facts about the foods contained in cans are equally simple. Canned foods are merely selected foods which, after preparatory operations, are hermetically sealed in tin containers from which most of the air has been excluded. The preservation of the foods is then effected by a heat treatment.

The nutritional values of commercially canned foods have been established by more than a decade of biochemical research. Reference to recent articles (1), (2), together with those publications listed in their bibliographies, will permit the reader to determine for himself how favorably commercially canned foods have stood the test of actual scientific scrutiny.

## AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) 1924. Ind. Eng. Chem., 26, 758  
(2) 1932. Ind. Eng. Chem., 24, 650

*This is the seventh in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.*



The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Committee on Foods of the American Medical Association.





Chesterfields  
—and a Merry Christmas to you all



© 1935, LIGGETT & MYERS TOBACCO CO.

WHEN DEALING WITH ADVERTISERS PLEASE MENTION THIS JOURNAL

# Wayne University College of Medicine

## DETROIT, MICHIGAN

A co-educational school conducted by the Board of Education of the City of Detroit.

The Wayne University College of Medicine offers the following courses:

Undergraduate: A course of four years of laboratory and clinical instruction leading to the Degree of Bachelor of Medicine.

Graduate: A course of one year leading to the Degree of Doctor of Medicine.

A course of two years leading to the Degree of Doctor of Public Health.

The College also offers elective courses for such applicants as show adequate preparation.

The laboratories of the Wayne University College of Medicine are well equipped and capably manned, and the clinical facilities at the command of the College are unusual.

The graduate course in Public Health offers thorough training for physicians who desire to enter the United States Public Health Service, or who wish to prepare for local work as Health Officers.

The entrance requirement consists of 15 units of standard high school credit supplemented by three years (90 semester hours) of credit earned in an approved College of Arts and Sciences. This credit must include Physics, Chemistry, Biology, French or German and English.

No entrance conditions are allowed.

For admission to the course in Public Health applicants must be graduates of reputable medical schools and be in good professional standing.

For detailed information call upon or address

### THE REGISTRAR

1516 St. Antoine Street

DETROIT, MICHIGAN

# MILWAUKEE SANITARIUM

Wauwatosa, Wis.

## For NERVOUS DISORDERS

(Chicago Office—1823 Marshall Field Annex  
Wednesdays, 1-3 P. M.)

### RESIDENT STAFF

Rock Sleyster, M.D., Med. Dir.  
William T. Kradwell, M.D.  
Merle Q. Howard, M.D.  
Carroll W. Osgood, M.D.  
Benjamin A. Ruskin, M.D.

### ATTENDING STAFF

H. Douglas Singer, M.D.  
Arthur J. Patek, M.D.

Maintaining the highest standards over a period of fifty years, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars sent on request.

### COLONIAL HALL—

*One of the 14 Units in "Cottage Plan."*













COLLEGE OF PHYSICIANS  
OF PHILADELPHIA

COLLEGE OF PHYSICIANS OF PHILADELPHIA



3 2446 00012 2371



This Book is due on the last date stamped below. No further preliminary notice will be sent. Requests for renewals must be made on or before the date of expiration.

DUE	RETURNED
DEC 14 1936	DEC 14 1936
MAR 12 1937	MAR 11 1937
SEP 16 1937	OCT 16 1937
SEP 6 - 1944	SEP 6 - 1944
DEC 22 1948	DEC 10 1948
AUG 24 1960	
JUN 26 1963	

A fine of twenty-five cents will be charged for each week or fraction of a week the book is retained without the Library's authorization.

